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ABSTRACT

This research report presents five papers offering Finnish, Swedish, Norwegian, and Australian views of educational issues. The first paper, "Nursery School Leadership--A Forgotten Leadership" (Margareth Drakenberg), discusses societal changes in Sweden, characteristics of Swedish Child Care Service, literature on leadership styles and organizational development, and results of interviews with 30 nursery school leaders which indicated that person-oriented duties such as human resource management and problem solving were the most difficult to handle and the most time consuming. In an essay titled "Research and Teaching: Vision and Reality," Bruce A. Jeans examines ideology and prejudice, university staff, program design and content, diversity and uniformity in teaching, academic freedom, essential features of research, research paradigms, and performance appraisal. "An Outline for a Model of Teachers' Pedagogical Thinking" (Pertti Kansanen) describes a research project which sought to find out how teachers move in their thinking from the descriptive to the normative. "Didactics: From Art to Science" (Tomas Kroksmark) outlines the interrelationship among methodology, didactics, and pedagogy. "Learning/Instruction Issues in Basic Skills" (Nils Sovik) concentrates on tasks related to basic skills curricula and the competence of the teachers who have responsibility for organizing, processing, and evaluating the learning/instruction program in arithmetic, reading, and writing. (JDD)

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RESEARCH REPORT 121

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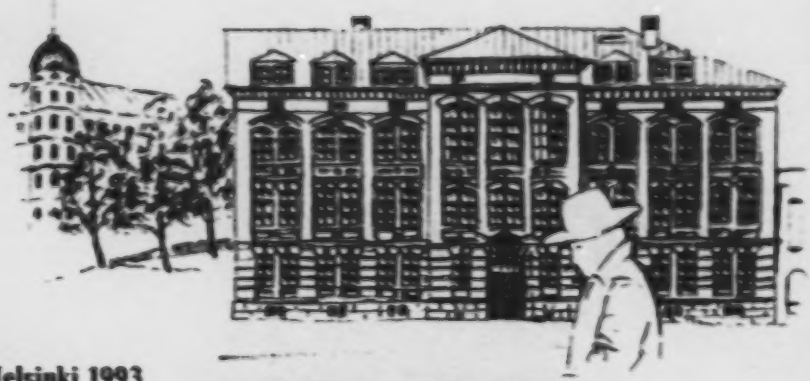

Helsinki 1993

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Contents

Contributors 3

Nursery School Leadership - A Forgotten Leadership
Margareth Drakenberg 5

Research and Teaching: Vision and Reality
Bruce A. Jeans 25

An Outline for a Model of Teachers' Pedagogical Thinking
Pertti Kansanen 51

Didactics. From Art to Science
Tomas Kroksmark 67

Learning/Instruction Issues in Basic Skills
Nils Sørvik 81

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Nursery School Leadership - A Forgotten Leadership

Margareth Drakenberg

1. BACKGROUND.

1.1 Societal change in Sweden.

Today it has become almost common sense that the best competetive weapon for the industrialized countries is a highly competent, motivated and creative staff, male and female. There is a need for qualitatively superb products and services as well as qualified and competent leaders. In order to get there the Swedish labour-market as well as the Swedish society have passed great changes. Some of the changes characterizing the recent decades are the following:

**Extensive urbanization*
**Far-reaching prosperity*
**Considerable technical progress at the work places and a great demand for highly qualified employees*
**Considerable expansion in higher education*
**Substantial part of the manpower is today female, consequently there is a great demand for child care service*
**Dependence upon foreign countries has increased*

What mentioned above are but some of a number of pieces in a puzzle showing a dramatic and rapidly evolving change in the Swedish society. Future prospects and trend analysis, mainly american (Hawkin 1984; Cetron 1987 and Naisbitt & Aburdene 1990) prophesy a continuing rapid speed of change. Nothing, however, is said about unimployment, about turbulance in exchange dealings or about depression, incidents characteristic of today's society and considered to be even worse than during the renowned 1930s.

In a rapidly changing society it has been seen as necessary to find organizational and leadership strategies that include and engage the employees as whole persons, meaning that knowledge, intelligence, creativity, intentions and feelings are taken into consideration. Ideas like these have earlier dominated the research literature during the 1970s in Sweden, but had, however, not the ability to penetrate in practice. A contributory cause to this set-back is to be found in the economical deterioration. When society had to face a more severe competition organizational principles in many work places relapsed into the older Tayloristic order. Deterioration of labour market has caused that employees today (1992/1993) focus on security over content and satisfaction at work. The possibility to retain the work places has become the most important issue for the employees in today's Sweden. This rapidly changing labour market, implying reorganizations in many places does not indicate that leadership and management become unnecessary and unimportant. On the contrary, the demands for qualified and competent leaders are constantly increasing, although to many leaders a new leadership-content will be required, a leadership-content in accordance with the needs and conditions of the employees

1.2 Some characteristics of Swedish Child Care Service.

Since the 1960th Swedish Child Care has experienced a dramatic development. Due to societal changes and a societal need for female manpower, as mentioned above, the Swedish society was forced to enlarge its child care service. During the 1960s a quantitative expansion was dominating, focusing on funding systems, organizational problems and principles. During this period local authorities had a hard time meet the enormous demand for child care service. Occationally researchers emphasized the importance of considering a more qualitative orientation, but these requests were not supported neither by parents nor by politicians, and all remarks concerning qualitative aspects were considered unimportant and were more or less repressed.

During the 1970s the expansion was still the main issue for Swedish Child Care. However, due to the somewhat tightening economy voices were raised demanding that public resources should be used more effectively. Among politicians a concern for the content and the work methods was noticed. During this period of time a change in the political dominance was also seen, indicating for instance that a discussion about qualitative aspects of

Child Care occurred more frequently. However, different political parties had somewhat different ideas about what was meant by quality. Right-winged politicians emphasized a structured content and the need for a pedagogical programme, while left-winged politicians stressed the importance of increased expansion focusing the debate more on issues like space per child-ratio and staff per child-ratio. Thus, quality was for left-winged politicians considered as the special amount of Child Care places. A strong emphasis on pedagogical studies could now be noticed among the nursery school teachers and a gradually growing difference between nursery school teachers and child care workers developed. This tendency toward a professionalization of the teaching role was observed and emphasized by the trade unions.

In 1981 things radically changed. The National Board of Health and Welfare published new guidelines (Socialstyrelsen 1981) and announced a new pedagogical programme (Socialstyrelsen 1983) for nursery school education. This programme emphasized structured work methods and work, play and learning were stressed as central concepts for the activities in nursery school. Focus is no longer on the individual child but on the group of children, indicating new and tougher demands on the staff.

The 1981 year plan and the 1983 year programme gave the impression of a nursery school characterized by carefully designed and meaningful activities, emphasizing the role of nursery school teachers as professionals. Of central concern, during these decades of heavy expansion, was also the education of nursery school teachers. In order to maintain a high quality in the activities the need for a well-educated staff was emphasized and the educational possibilities for people aiming at, or already working in Child Care, were heavily expanded. The children's comfort, safety, and well-being were considered closely related to the professional competence of the staff.

However, in this expansion programme the leader-staff was forgotten. Everybody working in Child Care is expected (forced) to have a basic nursery school exam. The day you as a nursery school teacher changes your position to leader of a local nursery school no further education is required, although your assignments as well as duties and resposibilities are drastically changed. Thus, leadership-staff in nursery schools has been and are still given responsible assignments without given any adequate training for their duties. A complicating problem is the fact that almost no educational programs have been developed for this kind of middle management.

The purpose of this study is to enlighten some of the problematic situations experienced by most nursery school leaders, to analyze how the

problematic situations have occurred and to emphasize the urgent need for educational programs addressed to middle managers giving also an adequate education for leadership in nursery schools.

2. THEORETICAL ASSUMPTIONS

The interest in leadership is of old date. However, the society of today demands leadership qualities of quite another kind compared to the old days. The number of books focusing on management and leadership has grown abundantly during recent decades and it is hard to get a reasonable overview. Besides, the great majority of this literature focus on men as leaders and top managers. Extremely little interest has, so far, been given the female leadership, often middle managers, but it is an expanding field of interest. However, in order to understand female leadership it is necessary to be familiar with the more common leadership literature.

To understand leadership, male or female, it is also necessary to be familiar with organizational development and organizational changes. In this paper a short overview will be given on literature dealing with leadership and organizational development, since I consider them as two out of three important prerequisites necessary for understanding female middle management. The third is experiences from reality, i.e. in this case interviews with female nursery school leaders. Consequently, part of this paper is devoted to leadership, part to organizational development, and part to the problems connected with being a nursery school leader.

2.1 The leadership literature.

Leadership is something very complicated, and seems to consist of finding the balance between fair demands and wishes of the employees. "Leadership is power-pursuit. Power is central in all kinds of leadership. Adequate style, method, and technique is not sufficient. A powerless leader is impotent" (Thylefors 1992).

The number of leadership and management books has grown abundantly during last decades and can easily be seen as overwhelming and unsystematic. Therefore in this review I have decided to focus on the 20th century for two reasons: 1/ I get a reasonable and coverable research period; 2/ I consider the development during this last century to be of most importance and interest for this study.

In order to get some kind of structure I decided to consider the topic most frequently dealt with during different periods of time as a characteristic of that period. Thus, kind of a structure of the literature evolved. The reader will notice there are no clear-cut demarcations between different periods of time because the focus of the literature changes slowly and gradually. Books and reports, representative for the different periods, are written all the time although the main focus has changed over time.

There has always been leaders: politicians, officers, business men and clergymen. The leader was in former times regarded as someone having superior qualities to reign, rule and command. Proficiency in leadership was considered as mainly inherited characteristics, and was so for centuries. However, the full emergence of industrialism in the end of 19th century was heavily influencing the view of leadership. Scientific management involved a materialistic view of workmen and resulted in an authoritarian and very formal leadership. Influenced by the Human Relation Movement during 1930-1940 the leader should have a more democratic approach and was now expected to work co-ordinatively. In more recent literature on leadership, interest has focused on the interaction between the leader, the employees and the situation, i.e. a flexible, adjustable leadership is emphasized. Thus, a review on leadership literature would roughly show:

1. Theories on hereditary characteristics
2. Theories on styles of leadership
3. Theories on flexible leadership

1. Theories on hereditary characteristics

Theories on hereditary characteristics are mainly of old age but it is in no way a dead topic today. Still, these theories do have a small number of supporters. Advocates of hereditary characteristic theories have studied our great leaders and tried to find which characteristics differentiate the great leaders from the masses. In this "school" I can see three different subgroups of literature: a/ a very old "classical" view of leadership; b/ a group of literature where successful leaders describe their experiences and c/ a group of literature about famous and successful leaders written mostly by phantom writers.

a/ The "classical" view of literature is undoubtedly extensive and has in many ways been an opening for very much research. Henry Fayol, the pioneer of this view in this century, was focusing on administrational conditions and emphasized that the principal assignment for the leader was to plan organize,

co-ordinate, command and control. One of the great advantages of this view of leadership is its development of a terminology. It has given executives and managers a language to use, although from a research point of view this terminology has been found vague and insufficient to cover the duties of a leader. However, this "classical" view has been very successful in marketing the terminology and these terms are most frequently used by Drucker, the foremost representative of this view today. In his books (e.g. Drucker 1974/1982) he presents the experiences obtained from his comprehensive assignments educating leaders of different organizations (Mintzberg 1973). Although some critics are very hash to his presentations, accusing Drucker of being only a mouthpiece for ancient termed concepts, he is very much appreciated, particularly for his distinct and vigorous mode of expression.

b/ For a long time past it is a well-known fact that some managers/leaders are more successful than others. A great number of books and reports have focused on which personal characteristics differentiate successful leaders from less successful ones. From a research point of view it was hard to find any general characteristics common for all the investigated leaders. First of all, they are all very different personalities, secondly, the organizations they represent are very different and so are also the needs and demands of their manpower.

Recently this "school" has seen a renaissance and a renewed interest (Bennis & Nanus 1985; Maccoby 1976; Mant 1983). Despite several scientific shortcomings, the literature stress the fact that some personal factors are in common for all leaders. The famous "Stogdill's Handbook of Leadership" emphasizes that personality of the leaders has been too an underestimated factor in this kind of research, and Smith & Peterson (1988) concludes that intelligence as well as some other personal factors are of great importance for understanding management. However, the critics still persevere and stress the obvious shortage of explanations regarding how personal factors do affect management.

c/ Another way of trying to find out what differentiate successful leaders from the masses is given in a number of very popular books about prominent and eminent persons, often written by phantom writers (e.g. Sloan 1964; McCormick 1984; Iacocca 1984; Carlzon 1986). From a research point of view this genre lacks scientific value completely. However, from an entertainment point of view they give some insights about the leaders' understanding of their leadership and due to a massive marketing and an easily comprehensible mode of expression these books are best-sellers.

2. Theories on styles of leadership.

In order to better understand the complexities of leadership the research, so far mentioned, has been of some, though inadequate, assistance. Many researchers were disappointed at the results given and in the 1930s a new approach was opened - styles of leadership. Research on styles of leadership was initiated by Lewin *et al.* (1939) and their now famous experiments on democratic contra authoritarian styles of leadership.

Research on styles of leadership do not consider leadership as something passed on by heredity. Instead this approach of research assume leadership to be possible to learn. Since its beginning in the 1930s, different theories have been developed, and one of the more famous is theory X and theory Y, presented by McGregor (1960). A leader, representative of theory X, is the classical, authoritarian leader finding his employees to be lazy, irresponsible and powerless of initiatives, i.e. a materialistic attitude. Representatives of theory Y find that their employees are eager to work, have strong initiative-power, are highly independent and responsible for their work, i.e. a humanistic attitude. More recently the Japanese theory Z was presented by Ouchi (1982) demonstrating the great power of a culture.

Another way of approaching styles of leadership has emanated from Lewin's (1951) research on small-group functioning. He coined the terms authoritarian, democratic and laissez-faire. In an authoritarian, task-and power-oriented leaderstyle, the leader decides the goals and the methods to use and is building his leadership on his formal authority. Many different kinds of authority have been discussed in the literature. Weber (1946) talks about bureaucratic, traditional and charismatic authority. Boshear and Albrecht (1977) on the other hand distinguish between formal and derserved authority. In general, authors concerned with leadership do not differentiate between authority and power, but spend a number of pages on discussing different kinds of power/authority.

The democratic leaderstyle is deeply influenced by the Human Relation Movement. Here leadership is regarded as a co-orientation, where goals and methods to use are discussed and decided upon in the team. The leader has a keen ear and his style is person/group-oriented. The lassez-faire oriented leader is a passive leader- or no leader at all. He is of no help for the team to organize the work and he does not take part in any discussions about goals or methods of work. He is lacking power of initiative and he is anguished to

come to a decision. However, Lewin's view of leadership seemed too narrow for a satisfactory understanding of the complexities involved in leadership. The different kinds of leaderstyles, suggested by Lewin, gave too a blurred interpretation to be of any greater help. Instead, more and more often Lewin's proposed concepts have come to be replaced by the Ohio School-model of leaderstyle. In order to elucidate the relationship between productivity and job satisfaction at one hand and leader style on the other, the concepts of "initiating structure" contra "consideration" were used. Initiating structure refers to a structured working group, where the leader organizes the work to be done, creates the rules and routines, provides the equipment and working surroundings needed. A consideration style of leadership is more person than task oriented. The leader cares about the members in his team, takes into consideration the resources, emotions, and goals of his employees. Respect and understanding characterize this leaderstyle. The two leaderstyles, initiating structure contra consideration, are not mutually excluding each other. On the contrary, some empirical research indicate a combination of the two to give the very best effects. Very closely related to the Ohio School-model of leadership is the one presented by Likert (1961), one of the more famous researchers in the Michigan team on leadership research. By studying supervisors he found two different leaderstyles - an employee centered and a production-centered leaderstyle. The similarity between the two dominating research groups regarding the styles found has also been emphasized by Lennerlöf (1968), who says "Employee centeredness as used by Kahn (Michigan team) largely corresponds to the Ohio group's consideration, while the quality of being production centered agrees in all essentials with initiating structure".

Consequently, the two research groups found kind of identical styles of leadership although they used different methods. The Michigan group used an inductive approach while the Ohio group concentrated on statistical methods when identifying styles of leadership.

However, changes in technology, increasing international competition and an explicit demand for alterations and renewal have caused discussions about a third style of leadership - the change-centered style of leadership (Ekvall 1988; Ekvall & Arvonen 1991).

3. Theories on flexible leadership.

The focus on leaderstyle has caused many researchers, as well as others, to assume that one style would be better than another. Empirical studies have shown, however, this did not come true and the search for other explanations of leadership was initiated. Leadership is not static and independent. Rather the contrary and in the end of the 1960s Reddin (1973) presented his 3-dimensional view of leadership, involving:

- tasks to be done
- relationships to collaborators
- situation

What is obvious now is the crucial importance of the situation. Situational factors and circumstances are entirely determining which leaderstyle to be best. According to Reddin five situational factors, in particular, are influencing leadership, i.e. organization, technology, superiors, side-long and subordinates.

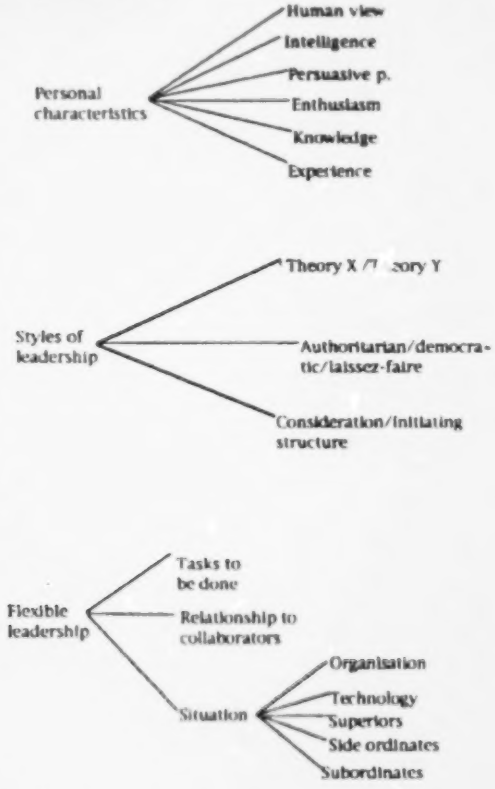
The importance of the situation was also stressed by Hersey and Blanchard (1982) who emphasized that successful leaders modify their behavior with regard to the situation. Accordingly, the behavior of a leader is a consequence of how he/she understands and interprets the situation.

Thus, after long has been considered as a one-dimensional phenomenon, the view on leadership has changed, first into a two-dimensional phenomenon and then , at the end of the 1960s, into a three-dimensional phenomenon, see Figure 1.

Considering leadership development it can also be confirmed that management in the beginning of this century was kind of "hard-ware", during the 70s a "soft-ware" approach was observed and ending the 80s and beginning the 90s the pendulum has turned over to a more "hard-ware" approach again. The importance of considering the "whole" person / leader has gradually become more and more important as well as the risk for leaders to be too depending on the situation, a victim of circumstances. Quality, change /development and the focusing on every-day situations have become more and more important ingredients in management, something Hagström (1990) also emphasizes. Research, ignoring the day-to-day-activities of the

leadership, neglects what might be the crucial factors, i.e. the rapid working place and the breath of activities.

Figure 1. The view on leadership as a one-dimensional, two-dimensional and three-dimensional phenomenon.



2.2 Literature on organization development

Organization theory and organization development has become of great interest during this century, but it is of old age. Many large-scale organizations have had their origin in Egypt, Greece and the Roman Empire.

These organizations were used for carrying out projects as irrigation, canal building and construction of pyramids. From that ancient time we have inherited structures that were "highly centralized, the work tasks were specialized into functional units, and discipline, dogma, and fear were used to ensure the compliance of workers. A rigid, hierarchical chain of command was the norm, and authority and communication emanated from the top. In turn, these inflexible organizations largely reflected a stable, relatively unchanging environment" (Dessler 1986, 19).

New economic, religious, and political ideas in combination with new scientific and technological discoveries did contribute to the evolution of industrialization. The industrial revolution emphasized resource accumulation and company growth, and the need for a "rationalization" stage became increasingly obvious.

The major theme of scientific management was that work could be studied scientifically, and Fredric Taylor proposed a framework for the new science of work and he suggested four principles:

"1/ Finding the 'one best way'
2/ Scientific selection of personal
3/ Financial incentives
4/ Functional leadership"

(Dessler 1986,22)

As a theorist Taylor was most concerned with the best way for deviding the work at the workplace itself and his interest was focused on principles #1 and #4. Taylor's ideas were firmly founded upon a desire for worker-management harmony and increased worker benefits. Still, Taylor has often been criticized as the man who proposed a degrading, demoralizing, machinelike existence for the workers, although his objectives were just the opposite.

While Taylor tried to increase the effectivity on the floor, others were concerned about the administrational effectivity. As the concepts and methods of scientific management generally not were applicable to the broader questions of organizational design, the need for taking such problems into consideration were constantly growing. Especially functions like organizing, controlling, and staffing were not analyzed and administrative theorists were in great demand. One of these theorist, contemporary to Taylor, was Fayol, who presented a theory based upon two concepts: principles of management and

elements of management. As a theorist Fayol leaned toward recommending a more centralized, functionally specialized organization structure in which everyone and everything had a precisely defined place.

During the 1920s and 1930s, a number of other theorists (e.g. Urwick, Gulick, Mooney, Reilly) set forth their views, following the concepts laid down by Fayol. However, their contributions could be considered important in some respects, they did not provide any guidance for implementation of their ideas.

Much more important is the bureaucratic organization theory, presented by Weber, a contemporary of both Taylor and Fayol. During the 1920s Weber saw the growth of the large-scaled organization and predicted that this growth required a more formalized set of procedures for administrators. His suggestion was a "pure form" of organization, which he called "bureaucracy". For Weber, bureaucracy was the most efficient form of organization and could most effectively be used with the complex organizations that arose out of the needs of modern society (Dessler,1986)

Much criticism has been levelled both towards the administrative and the bureaucratic organization theory. Mainly four categories of critical concerns can be found:

1. Conflicting principles and lack of empirical validity
2. Inadequate assumptions about workers
3. Inadequate assumptions about organization's tasks
4. Unanticipated consequences.

However, as early as 1900 events were occurring that, culminating in the late 1930s, would drastically alter man's view of himself, his organizations, and his environment.

In 1927, a series of studies, based on traditional scientific-management assumptions, was begun at the Chicago Hawthorne plant of the Western Electric Company that would eventually add an entirely new perspective to the analysis of organizations and management. The initial study of these investigations was formulated to determine the relations of the level of illumination in the workplace to the efficiency of workers. These Hawthorne studies suggested that variables other than physical working conditions might be affecting worker behavior and output. For the first time, the notion that worker's behavior depended on something more than just financial incentives and physical work conditions became popular. In combination with influences

of the Great Depression and changes in economic theory, the Hawthorne studies led to a new set of assumptions about work and workers pointing the way to Human Relations in management, thereby introducing significant changes in direction for organization theory. Firstly, whereas prior researchers had focused on organization structure, the attention was now turned to the questions of motivation, control and compliance. Secondly, the increased rate of change and novelty meant that organization theorists no longer could view organizations as closed systems, isolated from its environments, realizing a person's behavior is a product of the person's personality and the environment in which he works. Thirdly, re-evaluation of the employees and their capacity elicited a new emphasis on decision-making and initiated a trend toward decentralization. Organizational theories were presented by Lewin, Likert, McGregor and Argyris all of them presenting behavioral approaches focusing on people while overlooking the organization structure existing around those people. This period of time was also characterized by rapid changes in advanced technologies, economic growth, knowledge accumulation etc. Environment were no longer simple and unchanging and, related to this fact, an increasing number of work tasks required initiatives, creativity, and problem solving. These new conditions emphasized the need for development of a general organization theory dealing with the greater number of variables that now must be taken into account. A great number of studies were carried out, which further underscored the urgent need of a new theoretical approach. As a result a "situational" view of organization theory emerged, indicating that whether a "mechanistic" or an "organic" management system was appropriate depended upon the nature of the organization's environment (Dessler 1986).

3. METHODOLOGICAL ASPECTS

3.1 Purpose of the study

To get a better understanding of what it means to be a nursery school leader this study was designed to enlighten some of the more problematic situations. In this study these situations are also analyzed, trying to understand how they have occurred and how they can be avoided. Another purpose is also to emphasize the urgent need for an adequate education for middle managers, for instance leadership in nursery schools.

3.2 Sample

As a complement to the literature, a number of nursery school leaders were interviewed. These 30 nursery school leaders were selected so as to represent different levels of centralization/decentralization.

3.3 Interview- procedure

The interview, consisting of 18 structured and semi-structured questions, took about 2 hours per person and was tape-recorded. Transcriptions of the interviews were done and the data analyzed from a qualitative, phenomenological, point of view. Some of the questions were of quantitative nature and have been analyzed using quantitative research methods.

In this paper only a few of the questions will be discussed. For a complete analysis of the results , see Drakenberg (1993).

In this paper I will focus on three of the interview questions:

1/ Describe which different tasks you consider it to be your duty to take care of as a nursery school leader.

2/ Describe which of these tasks you consider most difficult to handle.

3/ What education/preparation did you get for your assignment to nursery school leader?

4. RESULTS and DISCUSSION

1/ Describe which different tasks you consider it to be your duty to take care of as a nursery school leader.

In table 1 the tasks are given, which nursery school leaders found to be important ingredients in their assignment. However, the duties are somewhat different due to the character of the organization. In more decentralized organizational structures more duties and responsibilities are given to the nursery school leaders, i.e. economical responsibility, recruitment, localities etc.

Table 1. The tasks nursery school leaders considered to be important in their assignment as leaders.

Task-oriented	Person-oriented
Budget/Resources	Representation
Planning	Human resource management
Co-ordination	Information
Development	Motivation
Control/Supervision	Problem-/Conflict solving
Working surroundings	Collaboration development

From the answers given to my question about duties I found it quite easy to separate the duties in two main groups, task-oriented duties and person-oriented duties. Considering table 1, we can find that as a nursery school leader you are no more educating, teahing and learning the small children. This means that what the leaders do have education/training to do - they are not doing any longer!

2/ Which duties do you consider most difficult to handle?

In general, person-oriented duties were found to be most difficult to handle and most time-consuming. In particular two tasks were emphasized in all the interviews, i.e. a/ human resource management and b/ problem-/conflict solving.

a/ Human resource management.
Any organization, however small, must pay some attention to the knowledge development of their staff. In Swedish Child Care Service, formal as well as informal methods of instruction and development considered to improve employees' performance and potential have for long time been of great trouble. During the most expansive periods it was argued that there was no money directed towards development of employees' potential. Rather recently, this was found to be a misunderstanding, indicating there has always, since the expansion started, been money for in-service training. However, since some years now, money is directed to in-service training courses and in the more decentralized organizational structures often the nursery school leaders have

the responsibility for an adequate use of this money. These leaders do have a problem here, because too many nursery school teachers are not interested in their own performance improvement. Why? Well, to understand that it is necessary to know three things: 1/ In nursery school the employees work in teams. Within these teams the personal relationships are of great importance and highly valued, and for too many these relationships are the only safety and security they have. A change in these relationships is seen as a disaster and must be avoided. Many employees consider education a way of challenging the stability of these relationships and such a risk they dare not to run; 2/ For about three decades now a special kind of "law"- the so-called I cannot-law- has been penetrating all activities within Swedish Child Care Service. This means that the employees do not, in any respect, want to be more knowledgeable than anybody else in the team. Very often nobody wants to learn anything more than anybody else , nobody wants to learn anything extra, nobody wants to distinguish her/himself. This was very obviously a problem faced by all the nursery school leaders and had been illustrated almost a decade ago by Ekholm & Hedin (1986) ,who showed that knowledge level in nursery schools is always in line with the person who is least knowledgeable; 3/ Another contributing cause can be found in the lack of advancement possibilities. The only next step is to become a leader of the local nursery school, meaning alterations in relationships and in tasks - a step not many want to take voluntarily.

The interviews showed that all of the interviewed nursery school leaders had severe problems to get their employees interested in developing their potential. A negative attitude, anxiety for relationship-changes and a lack of advancement possibilities might be the main reasons. This reasons are well-known also from other studies investigating low-educated persons (e.g. Larsson et al. 1986) and are found to be very difficult to change.

b/ Problem solving.

The second problem called attention to in all the interviews was the solving of conflicts and problems. This is really of great trouble especially for the female nursery school leaders, caused as I see it by three prominent reasons:

a/ the leader lack adequate education in this specific area

b/ characteristics in the female language

c/ the way females take and give criticism.

a/ As earlier indicated in this paper, the assignment to nursery school leader does not require any education or training over and above that of the basic nursery school teacher. Most leaders do, however, on private initiative and private money, try to get some training for the new assignment. The local authorities have often offered half-day courses focusing on different administrative tasks, but in general has no courses been offered focusing on for example personality psychology, problem solving, change development etc. These are difficult areas and the need for longer courses, e.g. a semester-course, is very obvious and highly requested (demanded).

b/ Female language is characterized by short sentences, a concrete and earthy mode of expression. In discussion, women seldom repeat what already has been said. If what a woman considers important already is said, most women prefer to keep silent. This female strategy has great influence upon the problem solving capacity and upon the possibilities to solve conflicts.

c/ To take and to give criticism is especially difficult for women because they often have problems in discriminating between task and person. Very often a woman who is reviewed consider the critical comments as being personal attacks. This circumstance is of course extra crucial when both the criticizer and the criticized are women.

The position, in between two parts of the organization, causes also a lot of conflicts. In this cleavage between a male dominated upper part and a female lower part of the organization the nursery school leader has a very exposed position, at the same time being a colleague and having to carry through decisions decided upon at a higher level of the organization. It is a position where political, professional and administrative issues meet, where competitive expectations meet. Such a cross-fire of ideas and interpretations is a fertile base for conflicts of all kinds.

FINAL REMARKS

My interviews with nursery school leaders show that the leaders in fact do what they have no education for, and what they are educated for they do not do any longer!

All the interviewed leaders emphasized that the person-oriented duties were the most difficult and time-consuming of their duties. Without an adequate education, nursery school leaders wear out themselves. This has

happen in many, many places . And so far, the local authorities do not care, because there are plenty of nursery school teachers to choose between. When one teacher is burned out they can easily offer the job to somebody else. And the leader who is burned out returns to her/his old job as teacher, again. Nowhere in any statistical reports is this unsatisfactory state of things even noticed. I consider it an abuse of human resources and many nursery school leaders consider themselves to be "a wear- and- throw away"-phenomenon. This is circumstances that not can be accepted any longer! The need for adequate educational training is overwhelming.

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Research and Teaching: Vision and Reality

Bruce A. Jeans

Ideology and Prejudice

We live in a world of *isms* and *ologies* - Socialism, Marxism, Feminism, Existentialism, Economic Rationalism to name but a few. It is hardly surprising therefore that many of them have found their way into higher education. Indeed it is quite proper that many of them be there. The *isms* and *ologies* of higher education are more or less orderly systems of knowledge, beliefs, assertions and attitudes that we have constructed to help us understand an influence the external world. They are a way of describing, or explaining, real world observations. It is these systems that I will refer to as ideologies. They are common in the social sciences but they are also used as general orientations in the natural sciences. In the physical sciences we have a preference for theories, laws and models rather than for ideologies but those who have studied the history of science would, I'm sure, be quick to point out that the sciences are also vulnerable to ideological dictation. Ideologies can be regarded as a form of prejudice but they can also be distinguished from prejudice on at least five dimensions.

Intellectual orientation

If an ideology is to be more than prejudice there must be sufficient argument to persuade a significant body of scholarly people that the opinion or prejudice should at least be given the status of an intellectual orientation. This requires rational argument, the clarification of a coherent set of principles and the identification of one or more domains of application.

Parity and dominance

An ideology not only requires a rational and public defence, the arguments also need to strong enough to convince a significant body of scholarly people that this orientation or world view should be accepted as an alternative to

existing orientations or even, in some cases at least, be preferred above competing orientations and world views

Argument and assertion
The first two dimensions imply that ideologies are publicly rather than privately owned. The defence of a particular ideology is the shared responsibility of all of those who assert that any set of principles, etc. is not simply prejudice. For this reason individual advocates should be able to articulate the two levels of argument outlined above.

Public debate
It follows from the first three dimensions that intellectual orientations or world view must be open to scrutiny of an informed public.

Stability and change
There are very few eternal intellectual truths. If an ideology is to have temporal stability it must be amenable to modification. The process of modification is assisted if the arguments supporting the orientation or world view are widely published in an open and scholarly literature.

The criteria also imply that an ideology:

i is systematic
ii has descriptive and predictive power that allow generalisation beyond the information given
iii has a public component
v has a rational defence.

Systematicity
An ideology is a descriptive or explanatory framework that takes account of a set of observations but it also has regard for attitudinal, political and socio-economic factors and beliefs about these factors. It is systematic to the extent that the assumptions underlying the ideology are articulated and are related to the set of observations. For my convenience and because I have had difficulty defining a set of possible observations, I have excluded metaphysics and religion from my notion of ideology. Exclusion on the grounds of convenience, or more correctly inconvenience, is a dangerous activity and should not be engaged in lightly. It is always possible that outliers are normal

observations and ought to be taken into account in the construction of the ideology.

Descriptive power

An ideology needs to describe existing observations and, preferably, give an indication as to which observations can be treated as errors rather than as extreme but acceptable data. It should also, of course, have some predictive power if it is to be of much value. Clearly an ideology as I have chosen to describe it has something in common with a theory. They differ however in their treatment of irrational or unproved elements, and assertions.

Learned public support

If an ideology is to be more than an expression of personal belief there must be some public acknowledgment of the ideology. By public acknowledgment I mean that a group of learned people can be identified who have examined the ideology and believe it to be a reasonable intellectual position to hold. That is, I would propose the same criterion that is used to declare whether something is to declared fact or non-fact or knowledge and non-knowledge. It is the reasonable person test.

Rationality

An ideology should have a rational defence. There ought to be reasons, more than assertions, as to why this set of assumptions should be accepted and why this set of assumptions is more useful than other competing sets of assumptions (Carr, 1993; Lee & Wringe, 1993). Not all possible ideologies have a role in the educative process. If the ideology is to be used in the process of education it must also have a moral or ethical defence. Such a moral or ethical defence must, at very least, include the assertion that the adoption of ideology X will contribute to the development of the good person. Although a moral or ethical defence includes an assertion of a particular type it should not be concluded that education is nothing more than the inculcation of a preferred ideology. The very notion of moral implies a universal value. Whilst the moral relativists might argue that it is wrong-headed to associate *moral* with *universal* such a view would ignore the possibility that moral values or universal principles can be considered as cognitive or intellectual derivatives (Jeans, 1989). It is much easier to require a moral defence than it is to actually construct such a defence. This is because of the difficulty of setting

the necessary and sufficient conditions for moral. Some of the criteria seem to be:

i the argument can be applied universally (that is to all content falling within the domain of interest),
ii it is intended that more good will result by adopting the ideology than by not adopting it,
iii there is a prima facie case for thinking that more good will result by adopting it than by not adopting it,
iv the ideology contains, implicitly or explicitly, a positive value
v the means used to teach within an ideological framework must not violate the freewill of the learner.

It is often the case that what is learnt is not coincident with what is overtly taught. The learner is not only exposed to content as for example, in a lecture, she is also influenced by the values and attitudes of the people teaching that content. Some of these values barely need questioning. For example, enthusiasm and energy are to be admired. Other values and attitudes such as insularity and disregard for cultural difference are less admirable. A lecturer might not intend to convey prejudicial attitudes but the hidden or personal curriculum appears to affect the learner just as much as, if not more than, the intended or consensus curriculum (Cornwall, 1975).

Education itself is a moral process in which certain content and processes are more likely than others to contribute to the development of the good person (Heslep, 1992; Ternasky, 1992). The teaching-learning processes used must meet certain criteria including the non-violation of the free will of the individual. The selection of content is not a neutral process. We select on the basis of what we consider to be merit of some kind; that is we work within one or more ideological frames or preferred set of assumptions and we attempt to achieve what we perceive to be satisfactory outcomes.

Most of us use one or more ideologies as general descriptive and organising principles in our scholarly activities - our teaching and our research. My concern in this essay is how a commitment to a particular ideology fits with our obligations to our students. For example, even though the aims of undergraduate courses vary widely these courses are the student's first systematic training in intellectual discourse. This means that we have a particular responsibility to see that students understand and have opportunities to practise this particular form of dialogue (Soudien & Colyn, 1992).

What then does it mean (and what should it mean) to have an ideological commitment? At one end of the scale the notion of commitment implies at least a strong preference for a particular ideology. At the other end of the scale it implies a conviction that the ideology in question is the best ideology for a particular purpose. Clearly, for any one person the level of commitment can vary across time and content area.

What would be the practical implications of an academic staff member arguing that for ideological reasons she would only teach content X or content Y and not content Z? With a small staff this could make it quite difficult to offer the course of study. For example, if the staff member argued that she could not supervise students undertaking field experience because of a particular ideological commitment it would necessarily increase the load of other academic staff. This of course creates some management difficulty and, if carried to the extreme, could make it impossible to offer the course as designed. Should therefore individuals have the right to act on strong held ideological preferences? This extreme case is not often encountered but when it is it is quite dysfunctional. It is fortunate that most universities can tolerate dissenting views.

Ideological commitment can be very influential in determining one's actions outside higher education but within higher education ideological commitment should be no more than a preferred position. The academic culture of undergraduate higher education should include breadth of perspective, tolerance of other reasoned views and training in the critical process (Walsh, 1992). It should not mean that one ideology is presented as the yardstick against which others are seen as inadequate. Indeed to adopt only one viewpoint can have extreme consequences (Kansanen, 1991).

What are the obligations of a person employed in higher education? I think that they are twofold. They are also interactive and, usually, competitive. On the one hand there is an obligation to enhance the life opportunities of our students. We do this, in part, by teaching. On the other hand there is an obligation to contribute to the development of knowledge by research or research-like activity (Aitken, 1991).

The nature of the higher education task varies enormously over time and over location but there is a general distinction between large metropolitan universities and small regional universities. One marked difference is in the nature of the interaction between university and its external communities. Small regional universities often expect that academic staff will be a community resource. In my own university, in earlier years, this was a

significant factor in the employment of new staff. Academic staff are expected to have a degree of commitment to the university and its communities and this is a reasonable expectation (Brademas, 1992; Benjamin, 1993). Few would argue though that this ought to be a life-time commitment. A commitment to university X does means that there can be no future commitment to university Y. The lifetime commitment, if there is to be one, is to the creation of knowledge and to pedagogy and not to a particular university.

Although I do not explore the matter in this essay, the nature of the contract between the employing university and the individual academic is relevant. This relationship is conceptually complex because of the nature of the task (Fairweather, 1989; Joseph, 1992). To some extent we are, and should be, intellectual mercenaries selling our intellectual competence at a fair price to an employer for a particular task over an agreed period of time.

On Teaching

University staff

The obligation to teach requires us to be well-informed or, better, to be expert, in the areas in which we teach. This is an essential criterion for employment in a university. The expertise that we bring to the task is a renewable resource (Tuckman and Chang, 1988) and there is a reciprocal obligation on the employer to provide working conditions in which this expertise can be maintained. Even though many higher education employers have limited options to fulfil the maintenance obligation they have, largely, continued to support periods of intellectual renewal and refreshment - variously known as the Sabbatical, Professional Experience Programs, and Outside Study Programs. It is something of a cliche that expertise in research does not in itself guarantee teaching expertise or vice versa. It is also a cliche of some merit. The qualities needed for research excellence overlap, but are not coincident with, the qualities needed for excellence in teaching. For example the most effective teachers seem to be those who are sensitive to person variables (Jones, 1989) whereas much, but certainly not all, research requires a focus on situational variables. For example, Bar-Haïm and Wilkes (1989) make it clear that gender interacts strongly with the research-teaching continuum. They claim that women tend to be concentrated in small, nonresearch institutions and are professionally isolated. In this essay I wish to do no more than echo Page (1972) in asserting that excellence in teaching has not been shown to be necessarily related to excellence in research.

It is not possible to be expert in an extended range of areas. It follows that one's teaching duties should be restricted to those expert areas. This condition is often violated for people working in highly derivative fields such as Education and it is exacerbated in small universities. In many western countries it is violated in Education because the funds available are not adequate to employ the range of staff needed. The economic rationalists as represented by the accountants of higher education do not, or choose not to, understand the nature of higher education. For this group of people the argument is one of staff/student ratios, quotas and dollars. Higher education must be a planned and managed activity but it should not be planned and managed on the basis of its similarities with manufacturing industry. It is misleading to think of a student as an empty container that can be filled with peas of knowledge, sealed at graduation and then placed on the market with an appropriate use-by date. It is true that there have been some benefits in simplifying the structure of higher education to make it amenable to central management. There have also been costs but because many of these are not readily quantified they are not given a great deal of weight. It would be a gross over-simplification to assert that the complexity of higher education, and of Education in particular does not enter the field of intellectual vision of our political and bureaucratic masters. However, on the evidence, I am convinced that the models adopted by many national Ministers of Education do not acknowledge the complexity of higher education.

Design and Content

What then is to be taught? Clearly, the general content of what is taught is to be located within one's area of expertise and will be very much influenced by what one believes to be the purpose of the program. The content cannot, of course, simply be a random selection from the entire domain. There are many factors that determine the selection of content. For example, course goals, subject objectives, personal preference and learner characteristics all affect what we teach. These are not a mutually exclusive set; there can be considerable interaction between them. It is also worth noting that as the size of the teaching team increases identification with, and emphasis on, course goals tend to decrease.

Does it really matter what academic staff teach to undergraduate students? When we take a content perspective it might often be the case that what is taught is not all that all that critical. Within limits the intellectual calibre of the staff and the quality of their interactions with the students are at

least as important as the content they choose to teach. This is not say that our students are incidental in any way. Rather more than a patient in a hospital, a student is simultaneously an integral part, and a client (Tuckman and Chang, 1988) of the same organisation. Biggs (1989) correctly points that teacher characteristics, student-learning, and institutional realities interact as a system in which pertubations in one part have consequences for the system as a whole. Students differ from lecturers in their perceptions of institutional realities (Gruneberg, Sykes & Monks, 1975). This frequently results in student dissatisfaction with the content of their courses. They tend to look for immediate relevance, clear theories, and concrete applications. Some professional programs do have these characteristics but one of the prime goals for Education students is that they will learn to tolerate ambiguity and to accept that theories are at best a guide to action and not a description of reality. This requires a degree of intellectual flexibility that is not always characteristic of students in other programs.

Diversity and uniformity

It is normally the case that academic staff teach what they believe in, or believe to be ideologically sound. This seems to be so obvious that any counter view barely seems tenable. One's first reaction to such an observation is probably to wonder to why it is useful to state the obvious. The observation is, however, not entirely without value. Surely I couldn't be implying that one could teach something that one isn't committed to. But that is just what I do mean to imply. Of course it would be ridiculous to teach that water is composed of sulphur and kinetic energy, or that the spontaneous generation of life is generally accepted. On the other hand, it is limiting to teach only Piaget's theory of cognitive development and leave the student with the impression that there is no other view or that no other view is valid. Similarly, for the student it is limiting to be exposed only to content that is consistent with one theory or model. Nor do I think that we can expose the students to all possible views and ask them to develop their own views or, if they so choose, no views at all. So we are forced to select and the selection of content is an ethical process. It is certainly not value-free. The perspective that one takes and the criteria that one uses are potential sources of disagreement when one comes to decide what is to be taught and how it is to be taught. Harman (1988) for example has noted ideological difference is a common cause of tension in course planning activity.

In a larger university it may be the case that the student is exposed to a variety of viewpoints over the three years of an undergraduate course. It may also be the case that the student will be in contact with more staff. The effects of this are not so clear, however. Even in a large School the student taking educational psychology for example, might still only meet three or four academic staff as against two or three in a smaller university. The benefits, if any, of the larger staff tend to be indirect occurring through staff interaction and, desirably, the joint design of subjects and programs.

There are other reasons why one cannot count on a greater diversity in a larger School. For example, when a School recruits staff it has a choice of adding ideological diversity or maintaining ideological conformity. There are good arguments for both courses of action. If we recruit for conformity we will strengthen the existing group by adding more like minded individuals to it. This can enhance research and post graduate teaching. If we recruit for diversity we are increasing the range of perspectives in our undergraduate teaching but reducing opportunities for research and consultancy that need a group. Recruiting for diversity may add an extra level of tension to the School and this is not always desirable. For various reasons some Schools recruit academic staff in their own image. If a School has a general commitment to, say an existentialist view of the world, less phenomenological views of the world will be probably not be presented to the students to the same extent. It might well be argued that this is perfectly reasonable and, providing the ideological ethos of the School is well-known students can make their own choice of university. However, many under-graduate students are simply not able to make an informed choice of university on such grounds. It is my view therefore that in undergraduate programs a breadth of perspective is to be preferred to a unitary view. It is breadth that distinguishes undergraduate study from post-graduate study where depth might well be preferred to breadth. It will, no doubt, be argued that many students actually prefer a single view of the world either because they are not equipped to tolerate diversity or because they themselves have ideals that are at odds with the complexity of the real world. I admire and respect the ideals of youth but ideals based on simple or exclusive views must be moderated by the accumulated wisdom of mankind. I am led therefore to argue that a commitment to an ideology should be expressed as a preference for one view or even a set of closely related views, but not an exclusion of all other views. It might be argued that social action or social change is only achieved by people with an ideological commitment to X. This argument depends on

understanding or defining higher education's role in social change and on testing the view that ideological commitment is a necessary and/or sufficient for social change.

Academic freedom

What if, in the community outside the university, there is some general preference for ideology A rather than ideology B? Is this preference alone necessary and sufficient for ideology A to be the basis of process and content for our teaching? In my view it is not. We have an obligation to test both positions and decide if, and how, to present them to our students. The adoption of imposed or unexamined ideological position impinges on the notion of academic freedom. Academic freedom is often reflected in a claim for the freedom to teach what one thinks is best. To mean anything academic freedom needs to be defined. It is context-dependent. If you are employed in a Christian theological college it would not be reasonable to extol the virtues of agnosticism to the exclusion of all else.

Another argument that might be mounted in defence of a strongly held ideology is the claim that one's commitment is a reflection of what most people believe to be right, or what most people ought to believe is right. What most people believe to be the case is simply that. Public support for ideology X does not necessarily make it right or good or give X any other positive attribute. As I have asserted earlier in this essay, the selection what to teach has a moral or ethical dimension. This imposes on each one of us a duty to see that this moral dimension is honoured.

The selection of teaching content is not the only ethical issue. There is the question of how the content is to be taught and the extent to which an individual should be influenced by corporate goals. Both are multivariate issues. Corporate goals are derived from a consideration of factors such as international standards, national and state policies and guidelines, and peer standards. The resulting mission statement is usually a compromise (Tuckman and Chang, 1988; Fairweather, 1989) between all these factors and as such is very likely to be at variance with the personal ambitions and objectives of individual staff members.

In higher education we seek to develop our student's capacity to read critically, write accurately and economically, and to apply systematically their analytical and synthetic skills. There are diverse views on how this is to be achieved. Many of those who have considered the issue have concluded that the goals that I have just referred to are best approximated, or achieved, by

encouraging students to take progressively more responsibility for their own learning as they move through their degree program. Just as we have an ethical responsibility in the selection of content we have an analogous responsibility to ensure that our teaching processes do not violate the free-will of the learner. They must also be such that the goals we have can be achieved. This is in the best traditions of higher education but often quite difficult to bring about. The increasing heterogeneity of student achievement at the point at which they leave the school system has added to the difficulty of our task and this has been compounded further by the funding constraints imposed on higher education. In most countries there is little hope of increased government funding and hence of decreased teaching loads. This situation will continue into the future.

Our workloads are often high and teaching occupies the major part of our time. If we define an active researcher as a person who has published three or more papers in refereed journals over the past three years then there is little doubt that most publicly funded universities are primarily teaching institutions. This is as it should be because teaching is a fundamental duty of the universities. The obvious tasks that take time are the interminable administrative and policy meetings, lecture preparation, face to face contact, personal assistance to individuals, and assessing performance. Some, if not all, of this is scholarly activity and under some circumstances might well be considered as research of a particular kind. It is not however research aimed at the creation of new knowledge, new ways of thinking and new ways expressing the human condition.

There is a need, and there are opportunities, to change the way we do each of these things and the time we devote to them. There are many ways that a university can discharge its teaching and research functions. Structurally, we can staff some departments so that can function as research centres and other departments so that they can function as teaching centres. We can divide the academic year into teaching semesters and research semesters or, as is most commonly the case, we can try to integrate the two activities in some way. If we take teaching preparation as an example, I fully understand that when you have to teach additional or new subjects they can take a lot of preparation and hence a lot of time. It is possible however that our preparation might also take the form of research activity either in place or in addition to the method of preparing learning materials from texts and the literature. If the material that we want to teach is available in the literature what is the case for using contact time to tell students things that they can read

for themselves? One very good justification is that contact time is an opportunity for the lecturer to give students a personal interpretation of how what they should have read can be woven together in a coherent framework. The lecturer has the chance to demonstrate how matters of selection, balance and emphasis are used in analytical and synthetic processes. Such lectures ought to be relatively infrequent and to be effective they need to be slightly shocking (Giroux, 1992). The content ought to confront the student with new realities, alternative interpretations, syntheses and descriptions. If a lecture does not have this effect on students what other case can be made for maintaining a lecture program.

It often seems that our cultural context with its compulsory schooling emphasises discussion and debate perhaps more than reading and reflection. It is certainly the case that our students often seem ill-prepared for the reading that is required when they enter university. This has been, and remains, a major obstacle for the average university. Many students misunderstand the purpose of reading. That is, they concentrate on what is the case rather than on what might be the case. It is easy to have unrealistic expectations of university students. Some of them are interested in creating new ways of thinking but their prime purpose in coming to university is to enhance their life opportunities and this usually implies preparing themselves for some form of professional employment. Nevertheless, if the universities are to maintain their unique position in society it will be because of their capacity to blend teaching and research and their capacity to go beyond the constraints of contemporary knowledge and practice (Barnett, 1993).

What can we do if the students won't or don't read? There is no easy answer to this question. There are some students who, for some reason or another, neglect their reading. From experience however it tends to be less true as students move into their third and later years. If they still won't or can't read one must ask why they should continue in the course. It is not just a matter of reading. Considerable intellectual effort is needed to contextualise what one has read, to criticise it, and to attempt to construct new frameworks and meanings. Postgraduate students certainly read a lot but as Diamond and Zuber-Skerrit (1986) point out, they can become preoccupied with reading and note-taking that they pay scant attention to clarifying their own ideas by committing them to writing.

The writing style that one expects of students varies with the disciplines. Physical science students for example use highly standardised symbolic conventions. For example, formulae such as H_2O and laws such as $E = mc^2$,

and in the English language, third person, past tense and passive voice such as *A sample of purified aluminium was immersed in a 0.1 molar aqueous solution of NaOH.* The imaginative and creative use of written language is not as significant as the correct use of the standard symbolic forms. Where the meaning of the non-standard writing is not clear it seems that physical scientists are more likely to ignore the accurate use of written language and impute relevant meaning. Fine art students also work with highly symbolic forms but unlike the science students there seem to be few standard meanings. For the student artist/performer written language is often seen as incidental and art academics are ready to impute meaning in inexact written language. The social sciences are language driven and hence the accurate use of language is essential.

In the domain of competing theories and opinions, and education is firmly in that domain, reading and writing are the only practical ways for most students to develop any scholarly characteristics. Should we then use some of the contact time for Socratic tuition (Neiman, 1991; Giroux, 1992). In this era of mass higher education many academic staff would scoff at the notion. But why not? Not doubt many students would have very great difficulty in the first year and a lot of students would have difficulty in all years. This doesn't make it wrong. I am not promoting this method but I am saying that one of our teaching tasks is to help students learn. I have become increasingly convinced that we don't use our time as well as we might and that we should husband the time that we use for the transmission of information. This is a relatively low level use of the contact time. I know the counter arguments and the harsh realities of student behaviour. These things have not deterred me from exploring other possibilities.

On Research

It is a matter of definition that some combination of teaching and research should be the norm for academic staff in higher education. Many of the points that I have made about teaching, that is about the selection of content and process, also apply to research. Just as there are cases at the margin that make a rigorous definition of teaching difficult so it is equally, if not more difficult to define research. For example what is to count as research? The scientist engaged in determining the chemical composition of moon rocks and speculating on their origins is readily classified as a researcher. What of the philosopher engaged in linguistic analysis? Is it useful to say that she is a

researcher? Is a literary critic analysing levels of meaning in a modern novel engaged in research? For all practical purposes it is better to conceptualise research as a continuum of activities rather than the dichotomy. It would be difficult if not impossible to have to label each specific scholarly activity as either research or not research.

Are there are any essential features of research? It is improbable that research can be neatly defined by one criterion, such as newness for example. There are probably many relevant criteria but the cluster of essential criteria should include newness, originality and intention in some form. Research seems to be characterised by at least the following:

i a desire to know and an intent to find out
ii a capacity to work systematically
iii the will-power to subjugate ego when assessing or interpreting data
iv a commitment to the critical process (usually by publication)
v the creation of new knowledge.

It might seem to the reader that I have inadvertently left out any mention of truth. I have deliberately not included a commitment to the truth because I don't know that there are many truths in our area. In summary, *research* is an intentional, and more or less systematic, activity that has as its goal the creation of new descriptions or representations of reality.

There are judgments, and hence, risks associated with these criteria. What counts as newness for example? Is it enough to repackage existing knowledge and claim originality? Are there enough differences between, for example, *advance organisers* and *introductory summaries* to support a claim that the latter is new knowledge in some way? Like most issues that I have been discussing, these are matters of judgment and hence need to be subject to broad and informed scrutiny. The requirement that there be informed scrutiny is a major reason why there should be communities of like-minded scholars engaged in debate and research. It is also a reason that governments should fund universities.

Does research have any moral dimension at all? Is there, or can there be, bad research? If there is, what are the criteria and who should decide? It would be possible to define research as meaning only those investigative activities that have a moral defence. If an investigative activity does not have a moral defence it is not research. Although this might be a theoretical possibility it clearly does not coincide with what is the case in the real world.

It is not a strong argument to say that research is outside the moral domain because it is essentially concerned with theories and models. Nor can it be easily argued that research is completely moral because it is concerned with the search for truth. Research into methods of genocide, for example, must be considered immoral. On balance, one concludes that there is no gain in conceptualising research as an abstract thing existing independently of the people involved. It is however, quite conceivable that the end product, knowledge, might be seen from this perspective. Research is a real world activity carried out by real people. It is, therefore, in the moral domain.

It follows then that it can be given a moral value. It is not enough of course for the individual researcher to assert that her piece of research meets the ethical criteria needed to place it in the moral domain. The research intent and content should be questioned to ensure, as far as possible, that the project has the potential to contribute to the good of mankind. There can be good and bad research. In this context there are two senses of good/bad. The research topic can be morally objectionable as in the example above. However, such research might be extremely well done as appears to have been the case with the experiments carried out on some prisoners of war in the last global conflict. On the other hand the research topic might be ethically sound and socially desirable but the technique used might be methodologically shoddy.

How then are we to monitor the quality of research and who should take part in the monitoring process? The contemporary practice of having ethics committees seems a sound way to deal with the matter. The fundamental point is not so much the matter of having a committee, it is the act of making all research subject to informed criticism and public scrutiny. Neither of these processes is particularly comfortable and the issues involved can't always be resolved by simple consensus. Researchers might complain about additional layers of bureaucratic scrutiny and I agree that the process ought to be as efficient and as effective as possible. Nevertheless, we have a particular moral responsibility to society and therefore we have to accept that the scrutiny works in the interests of the greater good. It is not a perfect world and regardless of how carefully a research proposal might be scrutinised for its ethical soundness there is always the possibility that the actual; research will not be so thoroughly scrutinised. Here we must rely very heavily of the integrity of the researcher to honour the contract implicit in the research proposal.

Research paradigms

There are a number of major research paradigms. These include research that is hypothesis-driven, research that is data driven (Maxwell, 1992) and conceptual-analytical research that concerns itself with conceptual analysis, literary criticism and the creation of history. This tripartite classification probably does not do justice to the classification of research paradigms although it is adequate for the purposes of this essay.

Hypothesis-driven research is associated with hypothetico-deductive methodologies. These methodologies assume that worthwhile conclusions can be obtained by limiting and controlling variables by design or by statistical manipulation. Data-driven research is associated with the naturalistic, ecological, or ethnographic method. The assumption is that hypothesis-driven research is often inappropriate in the social sciences because the relevant variables and their interactions are often unknown in advance and would be best understood by direct observation. The former claims to be observer-free, the latter claims to be observer-participatory. Conceptual, analytical and stylistic research embraces fields such as philosophy, mathematics, history and literary criticism. The major assumption here is that some form of truth can be constructed by successive approximation and interpretation.

The issue for any School is whether it should adopt a stance towards these paradigms. The intuitive identification of hypothesis-driven research with the physical and natural sciences is often, but by no means, always valid. The association of the social sciences with data-driven research is also valid but not universal. Although paradigm shifts or displacements are difficult to achieve (Kuhn, 1970) and there may be no intent that a School should move from one to another, academic staff need to know the strengths and weaknesses of the these paradigms if they are to make an informed choice between them for a particular task. I have visited a number of Asian and British universities over the last couple of years and have been interested in the strength of commitment to single-paradigm Schools in a number of fields of study. In my own work I prefer hypothesis-driven research except in the case of system-wide surveys but try to give equal support to researchers using any of the three paradigms. I agree with Tobin (1993) when he asserts that it is necessary for every researcher to understand each paradigm and not be committed to one paradigm solely because of its consistency with a particular ideological perspective.

It can be argued that concentrating on one paradigm optimises the research effort. Maybe that is the case but one of the problems I have seen in the single paradigm approach is that it leads to assumptions that is the great theory and the great leader. I believe that Jean Piaget and Lawrence Kohlberg are classic examples of the tremendous achievements of a single paradigm group of researchers working under direction. I also see the tendency, perhaps even implicit compulsion, to favour data that supports the great theory and the great leader. I think this is the case with the Kohlbergian school. This school was committed to a stage theory of moral development even though one can obtain data that give about the same degree of support for a parallel development theory. It might seem that the way to avoid this is to promote individual research. I think that the research group is a better model. For this reason I support the professorial-collegiate model.

Earlier in this essay I referred to the matter of subjugating one's ego; I think that this is vital, and extremely difficult to do. I mean ego in two senses. The intrusion of self into the research process and the effects on self of being recognised as a researcher. My opinion is that you and I and much of the academic community get involved in research because:

i we are curious about what might the case
ii we find satisfaction in creating answers consistent with data
iii it is has higher status than teaching
iv probably provides more life opportunities
v it develops new power relationships between people (master and disciple etc).

Each of these factors has the potential to create organisational conflict. It is not all uncommon for example to find that staff who concentrate on research do not have good rapport with staff who concentrate on teaching. It is misleading to conceptualise an academic community as a unitary culture that is open and happy with a tolerant group of equals concerned only with the truth. Higher education institutions are poly-cultures and it is the norm for the staff and students to be members of more than one of the sub-cultures (Harman, 1989). It is certainly possible to view the total organisation as one culture and Tierney (1988) provides an interesting discussion of higher education organisations from this perspective.

We, as individual participants in these cultures have all the foibles of our next door neighbours, we desire recognition, success and power in various

ways. This is normal, rather than abnormal, behaviour. The critical process is not a neutral process, humans do the criticising and humans receive the criticism. Points are scored and lost. Egos are stroked and bruised. This is not always a happy process but it works. To make it work however I think that we need to have a few guide-lines. We must want to maintain an intellectual environment; the development of a research culture is not possible in anti-intellectual surroundings. Such a culture is founded not on monastic, brotherly love or on the political deal. It is founded on respect for persons, impartiality, minimising distortion, and acceptance of, and participation in the critical process. I would settle for the critical but tolerant community. You will notice that these qualities are not typical of populations at large and they are certainly not true of Australia in particular. They do not even appear to be universally true of institutions of higher education (Murphy, 1972).

There is no defensible ideology of education that can justify indifference to one's colleagues and the corporate task. We are, to use a mediaeval concept, a community of scholars, and this should persist even at a time when the production model of higher education with its concept of the student as an item of annually increasing value to the nation has political and bureaucratic currency. An economic perspective is a necessary, but not sufficient, basis for the conduct of higher education. Our relationship with government and its agencies should be that of a consultant not that of a supplicant.

Relatively few of us are employed in universities solely for research purposes. Very few of us are wholly engaged in the creation of new knowledge or new skills arising directly from new understandings. There are specialist research centres or institutions in many countries but these are often associated with universities and often have some teaching responsibilities. Research is seen as a high-status activity and often desired as a form of intellectual and status mobility by academic staff who work mainly as teachers or who combine teaching and research.

In all universities there are people who prefer to teach, rather than to do research, and who do it well. It is something of a myth that all university academic staff are active researchers. Academic staff who prefer teaching are respected and appreciated by students and often provide a level of pastoral care that the students would probably not get otherwise. In many universities however teachers are at a disadvantage in the competition for promotion. Although most universities claim that they value teaching they do not often reward it with promotion. When promotion criteria do refer to teaching, promotion committees often look to see if the applicant has published about

teaching. This is taken as evidence of teaching excellence. It is a common view that good teaching must be informed by personal research. If this personal research can take the form of scholarly activity then I would certainly agree. I would put a counter view however if research is defined only as the creation of new knowledge and new modes of expression.

Nearly all of academic staff combine varying levels of research with varying levels of teaching. This is the role of most academic staff (Neumann & Lindsay, 1988; Fairweather, 1989). Although we might watch for opportunities to become fulltime researchers we can usually satisfy our students, ourselves and our employers by combining teaching and research of varying kinds and in varying proportions.

Performance appraisal

Before I conclude this essay I want to say something about the quality of academic staff. It is, for me, an utterly reasonable expectation that university staff will earn their salaries and that they will be accountable for their work (Elton, 1988). My concern is about how we might obtain this assurance. Academic staff vary in their intellectual competence, their commitment to teaching and research, and their willingness to be involved in community services. Indeed they vary on almost every dimension that one can think of - so does everybody else! Traditionally, universities have dealt with this variability in a number of ways:

i faculty or departmental heads have tried to intervene - sometimes, but not always using formal processes,
ii peer pressure,
iii by simply accepting that systems aren't perfect and that one never knows when and where the work of an apparently non-contributing colleague will bear fruit.

These strategies work more or less well depending on particular contexts but on balance they work well enough. They are usually not codified or systematised but they are part of the general context in which we work in higher education. In the last decade the rise of economic rationalism - the doctrine that the best decisions are the most cost-effective solutions - has brought with it the notion of performance appraisal (Burton, 1991; Lonsdale; 1991; Ryan, 1991). This is a not a particularly new idea but it is being

pursued with some vigour in a number of countries. The construction of appraisal processes, procedures, forms and files has occupied many academics and administrators for countless hours. I do not intend to be too cynical but it has become a growth area in some universities.

Performance appraisal (Lonsdale, 1990) is often tied to staff development and once again this is a good idea. If we can identify performance areas that might be enhanced by staff development processes surely everybody will benefit? Yes, and no. To my mind there is a big gap between vision and reality (or theory and practice). One the one hand it is valuable to reflect on past performance and to map out the coming year. There may be some argument around the quantity of work that a staff member has done in the past year or will do in the coming year but these are relatively simple arguments. I think that the real difficulties come when we try to ascribe values. For example, how should we establish whether or not X is a good teacher? It is now a common practice to ask students to fill out appraisal forms (sometimes called subject or content appraisal forms so that it is less threatening to the lecturer). How valid and reliable are these student impressions (Jones, 1989)? How well equipped are students to assess even the lower level utilitarian functions of a university? Even if the student cannot see the relevance of certain content should this impression be used to imply that the lecturer is not a good teacher? How much of the work of a university can be assessed by looking at immediate and short term outcomes. One can argue that client satisfaction is paramount because they are (usually) paying tuition fees and expect value for money. One can equally well argue that paying for a university education is not like buying a washing machine. For example, when you buy a washing machine you will have some kind of warranty that entitles you to repair or replacement if it doesn't function in accord with the manufacturer's specifications. I think that it is almost impossible to give similar guarantees for higher education. Whereas the user of the washing machine has little to do with the actual washing cycle - involvement is limited to the input and output elements, the student is an integral part of the education process. We can construct a higher education analogue to the washing machine guarantee but it is a matter of how meaningful we can make it. The fundamental difference between the two cases, machine and student, has not stopped the drive to develop standards and we are entering an era where universities might even be certified by national or international panels and given an International Standards Organisation number.

Although I think that the current tendency to think of higher education as an industry is largely mistaken, I certainly don't deny that there are some parallels. A multi-product company may well have divisions of varying productivity or profitability - this doesn't mean that the company as whole is not functioning well. The company will almost certainly want to improve the productivity and profitability of these divisions if it can. The decision it faces is whether the cost of increasing the productivity will exceed the resultant profitability. This seems to me to be very similar to our dilemma. If we do identify certain areas in which one's self or one's colleagues might improve their performance we have to ask whether improvement is achievable and whether attempting to enhance performance is likely to be cost effective. Universities seem to have money to set up staff appraisal programs. There seems to less money available to do actually act on the outcomes of the staff appraisal process.

I have concentrated on teaching in this discussion. What of research, administration and professional consultancy? Each of these has its own difficulties of appraisal. The criticisms that I have made do not invalidate the processes of performance appraisal and I support the further investigation of `academic work'. However, I do not think that university education is analogous to manufacturing industry or even other service `industries'. I do not expect the community to take us on trust but the quest to codify and enforce minimum standards of performance may do more harm than good to the universities.

Conclusion

If we are to fulfil our obligations to the international community of universities we need to maintain a duality of purpose. We need a vision of what might be the case and we need the ability to acknowledge, but not accept without question, contemporary social, political and economic factors that constrain intellectual freedom. The maintenance of this duality also requires a tolerance of the gap that usually exists between vision and reality. It also implies a tolerance of, and a respect for, the intellects and personalities of our colleagues. In Education none of us have an option on the Truth or the Way.

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An Outline for a Model of Teachers' Pedagogical Thinking

Pertti Kansanen

1. Introduction

The basic idea behind this research project is to find out how teachers move in their thinking from the descriptive to the normative. This well-known principle is usually referred to the work of David Hume (1711-1776) and to his book *A Treatise of Human Nature* (1739). The problem is constantly of current interest and, for example, Fenstermacher (1986) in a recent article deals with it by dividing the problem into "knowledge production" and "knowledge use", where the later implicates some action. It is self-evident that it is not possible to be in the teaching profession without personal values or without taking sides between various alternatives that continuously come into reflection in a teacher's thinking. How do these values come into the educational process and what is the teacher's role in this process? In my earlier report (Kansanen 1989) I suggested that values come into the teaching process two different ways: Through the analysis and definition of educational aims and goals in the curriculum, and through the decisions steering the educational process in practice.

The first way for values to come into the educational process brings the formal decisions of the curriculum makers to the teacher's consciousness and s/he must consider and evaluate them before they are internalised in his/her thinking. If this does not happen the educational process is steered from the outside. In any case the, process itself gets its steering elements from the curriculum, and the teacher is a link in this process.

The second way for values to enter the educational process is directly through the teacher's thinking that is naturally guided by various factors of which personality, experience, and teacher education are perhaps the most important. In addition to the values in the curriculum, the teacher's personal conceptions of education, teaching, learning, students, etc., have a central meaning in this process.

What are the educational principles and educational theories that guide the teacher's action in this process? Are these conscious and what kind of speculation is s/he using in this process? These are questions that can find their answers in teachers' implicit theories, in their pedagogical thinking.

2. The conceptual framework

2.1. Teaching and instruction

It is not possible to define teaching or instruction with one word or one brief concept without considering the background of the whole educational system and the specific curriculum where the very educational process is taking place. Furthermore, these concepts have different nuances in different languages that, perhaps, also mirror different kinds of thinking. We turn here to the terminology of Anderson and Burns (1989, 3-15). They define teaching as

> "... an interpersonal, interactive, typically involving verbal communication, which is undertaken for the purpose of helping one or more students learn or change the ways in which they can or will behave." (1989, 8).

Instruction, on the other hand, is conceptualised as a broader concept

> "... as inclusive of teaching (that is, teaching is one aspect or component of instruction)" and "Knowing something about instruction helps us gain a more complete understanding of teaching." (1989, 9).

The instructional process is, thus, a wide concept consisting of all the important components taking place in classroom instruction as well as of the steering factors defined in the curriculum. The teacher's task in this process is to develop the best possible ways to promote learning in his/her students.[1]

2.2. Purposiveness as a characteristic of education

The cardinal concepts of the instructional process as it is understood in this project are purposiveness and interaction. Of these, logically the first and thus more important describing education in general and instructional process in particular is the purposive nature of this phenomenon. As a prerequisite for education, a certain purpose is always prebuilt in its definition, guiding the

[1] It is very difficult to think in these central terms because their meanings may vary in different languages. In my thinking the instructional process is a totality that includes both the teacher's and the pupils' actions and learning as well. For the same reason it is very difficult to speak of teaching consisting only of teacher's actions and thinking.

process with all its minor parts and details. This purpose permeates the whole educational process where it becomes specified at various levels and in various areas. There is purpose all the time in this process. On the one hand, purpose gets its meaning through the curriculum, on the other hand, this purpose becomes a part of the thinking of the participating persons. They, the teacher as well as the students, have intentions that they bring into the process with all of their own experiences acquired during their former lives. Purposes come into the curriculum from somewhere, but they must also become internalised into the thinking of the participants before they can be present in the process. The crucial question becomes how to integrate the purposes of education defined and specified in the curriculum as goals, aims, and objectives, into the thinking of the teacher and of the students. In this article, however, I limit my considerations to the teacher's pedagogical thinking.

2.3. Interaction as a general concept

In an early article Philip W. Jackson (1966) divided teaching into two phases: preactive teaching and interactive teaching. This same division is also used in other articles, e.g. in the review of teachers' thinking by Clark and Peterson (1986). Jackson's notion, however, can be logically extended where interaction is used as a base for the whole process. The first one of Jackson's phases refers to the planning section of the instructional process and other activities that precede the teaching itself. If we accordingly consider interaction as a basic starting point and notice that reflection is also taking place after the interactive phase, we can divide the interaction into three phases: the preinteractive phase, the interaction proper, and the postinteractive phase. The flow of situations builds a continuous cycle where the postinteractive phase always starts a new preinteractive phase so that they integrate into a continuous process of planning, teaching, and evaluation. Gage and Berliner (1983) have also come to this same conclusion in their book *Educational Psychology*. The conception of the instructional process as a continuous flow of episodes and situations is in itself quite a common way to understand the nature of this process. The terminology, however, often does not express this essential feature.

In addition to the interaction that takes place face to face in the classroom there is also indirect interaction between the teacher and the students. The teacher is preparing his/her lessons and s/he must always take the former history of the class into consideration along with the characteristics

of the students and the contextual factors that build the frames for his/her planning. The students, on the other side, do their homework and ponder their tactics for preparing for the next instructional situation.

Defining interaction in such a way with its extension to indirect interaction makes it possible to have a general concept of the instructional process. With the concept of interaction one can explain all the activities of the teacher and the students with one basic concept.

The nature of interaction in itself is a complex expression. An essential question regarding its nature is whether it is possible for the relationship in a teacher-student interaction to be symmetrical. This is the question especially posed by the representatives of the critical school. In the instructional process, however, it is the teacher who always has the responsibility by legislation to steer the process and that is why there is also power and authority in the teacher's actions that are not to be neglected. Interaction in the instructional process can accordingly never be symmetrical but it can, however, be as democratic as possible within these conditions.

The instructional process cannot take place in a vacuum. In the school context instruction is always directed by the curriculum with its theoretical and political foundations. The societal frame of reference brings its ideological ideas into the instructional process to be followed by teachers in their practice.

3. The basic characteristics of the instructional process

The instructional process within a school always has two sides participating in the process: the teacher and the students. One teacher has several students at the same time with the responsibility guiding their development along the aims and goals set in the curriculum. The activity of the teacher, teaching, is purposive, aiming at the development of pupils' personal development. It is a well-known fact that teaching in itself does not necessarily imply learning. Teaching is rather a kind of action that is aimed at pupils' learning or other kinds of outcomes without any guarantee on the teacher's part (e.g., Smith 1987).[2]

Although the activities of the teacher and the activities of the students can be linked in many different ways, the problem of the nature of their reciprocal relationship stays. According to Ryle (1949) in everyday language we can divide verbs into two categories, task words and achievement words,

[2] The reference to B.O. Smith opens up a large body of literature concerning the characteristics of teaching and the reciprocal relationship between teaching and learning.

or according to Scheffler (1960) they can be divided by their intentional use and success use. With the first category we mean the activity itself without any outcomes, the instructional process proper. In the research area of teacher effectiveness this same class of activities is known as process criteria. In the other category consisting of achievement words or success use of the words, there are some results implicit in the expression. In the area of the teacher effectiveness research this is said using product criteria.

As mentioned above, it is a widely held conception that teaching does not necessarily bring learning or other changes as a result.[3] In this respect teaching interactions may differ from interactions in other fields. A very familiar situation exemplifying this difference, perhaps, is the act of selling and buying. This analogy, however, cannot be transferred into the instructional process as such. In the instructional process there can be teaching without learning and there can also be learning without teaching, although this point is not as clear as the first one. It depends on how we define teaching and whether it is necessary to have a person, a teacher, in order for an act to be called teaching. In self-studies, too, there always are some factors or impulses affecting and steering thinking and eventually leading to learning or some other changes. Fenstermacher (1986, 38-39) uses another analogy with the terms 'racing' and 'winning', and although there is no interaction between these terms in the same meaning as in the instructional process his 'ontological dependence' describing this relationship is also very accurate when considering teaching and learning. Pearson (1989, 78-83) presents the same criticism pointing out at the same time, however, that in this way it is possible to avoid characterising the relation between teaching and learning as causal.

The actions of the two agents, the teacher and the students, in the instructional process become very complex if we take into consideration that there can be numerous students participating in this interaction at the same time. Quite soon it becomes impossible to think of the net of possible interactive relations. The position of learning in this process is of the utmost complexity. We are used to thinking of learning as some kind of change but we can also pose the question in the opposite way: Is all kind of change learning? It is very easy to notice that the aims and goals in the curriculum consider changes from a larger perspective than what we are used to when we call something learning (cf. Uljens 1992).

[3] There are, however, great differences in various languages concerning the very word teaching in this respect. In some languages it is possible to find both of the meanings referred to in the text (i.e. Swedish) and in some languages it is not possible (i.e. Finnish).

A further important point is to notice that learning by its nature is unconscious. We cannot get learning to take place by means of willpower or by means of a decision on the part of the student. The instructional interaction aims at learning, but it is only possible to steer the activities of students with the purpose of fostering learning, or the student can wish and try to do something that s/he or the teacher thinks will probably lead to learning. But learning in itself occurs unconsciously depending on various personal and contextual factors.

If we describe the activities of the teacher as teaching, I would prefer to call the activities of the students as studying. This interaction may bring about some results that we usually think of as changes, and an important part of these changes is learning. Learning is occurring in the teacher's head as well as in the student's head, but naturally their content is of a different kind. In this way the whole instructional process can be understood as active on behalf of both sides. Studying as a concept is active by nature, and we can avoid referring to learning as something passive, which may occur through conditioning or because direct observation does not reveal what is happening in the student's head. Studying, on the other hand, can always be understood as active (cf. learning by doing) and perhaps as conscious, too.

4. The elements of pedagogical thinking

4.1. The aspect of purposiveness

The teacher always works in a predetermined context. In this situation s/he has a certain freedom to act that is defined in the curriculum and the societal factors directing the implementation of the curriculum. Institutional frames supply the broader conditions under which the teacher's work is taking place.

Characteristic of the teacher's thinking is that decision-making during the interaction is at the same time pointed in two different directions: it has its background in the origins of its purposes and its future in its results. In this process time is an important indirect factor; the instructional process consists of cycles of episodes where planning and evaluation always precede and follow the interaction. The practical moments are naturally directed by continuous-decision making during the various phases of the interaction. Although the teacher may give reasons for his/her actions up to the small details and describe the incidents requiring various skills and methods, it is the broader line of argument that is of importance in pedagogical thinking. From this line

of argument it is the totality of the instructional process that leads thinking. Since it is the normative that is of main interest in this article the factors which direct this line of thinking are also of interest. Behind the purposes of the teacher's thinking, and at the same time behind the whole curriculum, there is the wide area of ethics where values in various forms are directing normative arguments.

The degree of consciousness in the teacher's thinking about purposiveness can vary quite a lot along a dimension from being a total technician to being an independent decision maker. The instructional process can be steered from outside to previously specified aims and goals without the teacher's personal contribution. The instructional process is then of quasi-teleological character (von Wright 1971, 57-60) and it is directed, for example, by ready-made teaching material or by a very narrowly defined curriculum. On the other hand, the teacher may be fully aware of the aims and goals of the curriculum. To be defined as purposive in the instructional process the teaching needs to follow the principles expressed in the curriculum. This is, however, not enough. The aims and goals must be accepted into the teacher's own thinking and finally internalised into the teacher's way of living.

In the various phases and situations of the instructional process, understanding of the origin of the values behind the curriculum is postulated to have a decisive significance in contemplating what is right or wrong, invaluable or useless in the interaction. Although it is not probable that teachers consciously make up their minds in this respect and have a conscious insight into the origins of these values, they may nonetheless play an important part in the teacher's implicit theory. It is of interest to find out how teachers are cope with this problem area.

The aims and goals may be thought of being of a consensual character. In that case they can be accepted but at the same time they are understood as relative and changeable as to their obligation. They may be criticised and discussed, there is a certain tolerance in their realisation. Their origin is understood to be in the societal context and they must be accepted in the society by the majority of its representatives. They are also political, and in this meaning democratic, too.

Teacher's work consists of a chain of episodes with the past and future existing at the same time. Planning as well as the whole preinteractive phase of the instructional process are important because the curriculum, with values expressed through aims and goals, determines to a great extent the intentions

in the teacher's thinking. The future is important because there the results, learning included, can be seen. The more the teacher reflects on the premises of his/her teaching and the whole instructional process the more the value questions come into his/her consciousness. The purposes of the curriculum and his/her own intentions may integrate to build a personal conception of the instructional process. With the internalised purposes as his/her intentions, the aims and goals gradually receive the character of some kind of a deontological theory with moral responsibilities. The understanding of the nature of values behind the curriculum is then of central importance. Teachers work with different degrees of moral consciousness depending on their commitment to the aims and goals directing their action.

Speaking according to the language of normative ethics (cf. Frankena 1973, 12-33) we can combine the value questions with the goals and aims of the written curriculum. In this way we can also link the content of the curriculum to the teacher's purposes. If the teacher knows the curriculum, its purposes, aims, and goals, it is possible for him/her gradually to make them to become a part of his/her thinking and internalise its content as part of his/her responsibility. In the teacher's pedagogical thinking the decisions that happen during the preinteractive phase of the instructional process derive their reasons through a certain kind of deontological thinking; that means through the content, and behind the content through the aims and goals that reflect the value base of the curriculum. In practice the aims and goals determine to a certain degree the freedom of the teacher's thinking, and by approving of these they become a part of his/her own thinking. Teacher's intentions become identical with the purposes of the curriculum. The teacher follows certain rules and administrative regulations as self-evident action, but not without criticism.

Pedagogical responsibility also comes into action on the other side of the process. Although deontological understanding of the curriculum has its obligation, the teacher's work, however, is evaluated according to its results as consequences in his/her students' personal development. This teleological aspect of the instructional process must be in harmony with the purposiveness of the teacher's thinking, and as a rule there is no problem with this question. Combining the deontological aspect with the teleological aspect reflects the teacher's conscious understanding of the totality of the instructional process inside the curricular frame. There is, however, different degrees of this consciousness. On the other end of this dimension there is quasi-teleological action where decisions are determined through the technological means such as textbooks and other teaching materials without the teacher's personal

contribution to their use. This kind of action may be substituted by any agent in the instructional process. The development of professional thinking in the instructional process follows along this dimension to the conscious thinking about the position of values in the whole process of instruction. Purposiveness may be an idealistic characteristic of the teacher's thinking and action, but in any case it is the core of teacher's pedagogical thinking according to this model.

To make it clear, I am trying to say that there is a certain difference between purposes and intentions. In this text I have used the term purpose in the context of the curriculum where it is seen as goals, aims, and objectives. Intentions, on the other hand, are in the head of the teacher. The students have intentions, too. It is, however, the intentions of the teacher that are defining the intentional situation (cf. Pearson 1989, 65-71) in the instructional process. Nevertheless, as Clark and Peterson note (1986, 273) the teacher has many other kinds of intentions during his/her work besides bringing about learning. That is why it is important to try to combine the teacher's intentions with the purposes of the curriculum. If that process succeeds the thinking can be called purposive, and the teacher has internalised the aims and goals of the curriculum into his/her thinking, hence we can call it pedagogical thinking.

4.2. The aspect of methodology

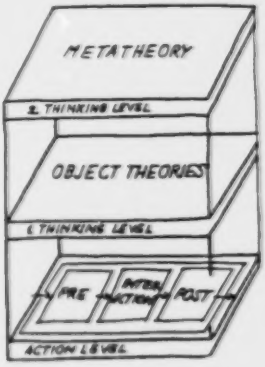
In addition to the factor of purposiveness, methodology in thinking is the second important cornerstone of the model. In this case, research methodology is specifically emphasised. We all understand how difficult it is to have the whole instructional process as the research object in one research project. It is not possible for a lone researcher or even for a research group to explore this whole area. The teacher, however, has to think all the time how the totality is functioning. How then is it meaningful to require knowledge of research methodology in the teacher's thinking since it means understanding different approaches and different research traditions which include every possible research method? It is naturally a question of a certain kind of attitude that in general reflects problematising the decisions in the instructional process.

This is not the right place to discuss what kind of research methods are necessary in pedagogical thinking. All kinds are useful without any commitments to certain paradigms. This is, however, a problem of teacher education. Understanding research methodology and knowing how to use at least some research methods, it is suggested, increases the teacher's autonomy

and independent decision-making. The more the teacher has expert knowledge of his/her work and understands on which premises his/her decision-making is based, the more freedom and autonomy s/he has in his/her work and the more critical s/he can be inside the curricular frame.[4]

One approach for analysing the importance of knowledge of research methodology is to look at the teacher's work from different levels (König 1975, 26-31; Guhl & Ott 1985, 88-113; Knecht-von Martial 1986, 26-28). On the action level (Figure 1) along the interaction dimension there is planning, implementing, and evaluation with numerous contributing factors influencing the practical work. On this level basic teaching skills are needed, and practical experience as well as practical situations guide the teacher's work. This means thinking only of immediate problems and their practical solutions at a given time. This description is simplified, of course, but it emphasises the continuous flow of problem episodes requiring the teacher's decision making. Without readiness for pedagogical thinking, without understanding the purposive and methodological character of his/her work, the interaction takes place only on the action level.

Figure 1. Pedagogical level thinking



On the first thinking level the teacher has an inquiring attitude directed at his/her own action. The instructional process is then the object of his/her thinking. With conceptual analysis and by means of empirical research

[4] This speculation is highly reminiscent of the relationship between the clarity of aims and goals and the dependence of the student on his/her teacher presented by Ned A. Flanders (1970).

knowledge it is supposed to be possible for the teacher to build theoretical models to help him/her functioning in the process. The idea is moving from practice through theorising back to practice. In this practice s/he needs theoretical expert knowledge in research methods as well as in pedagogical content knowledge; both are important. One possible result of the analysis on the thinking level could be the understanding of the basic concepts and their interaction that must always be considered in any practical situation. Having the insight to look at his/her own work on the action level is, I think, the basic beginning of the teacher's professional development and there, knowing the foundations of research methods, the empirical viewpoint which will then follow the purposive attitude becomes the most central aspect.

A further requirement in the teacher's professional development would be achieving the second thinking level, the metatheoretical level. Acting on the first thinking level quite soon reveals that there are numerous occasions to build theoretical models and frames for teachers' work. It is naturally possible to begin to compare them with each other and to experiment with different examples. On the second thinking level the teacher may notice that behind the different theoretical models there also are different ontological hypotheses guiding the model building. It is not possible to compare the models themselves but this can be done with their background determinants. The value questions must be taken into consideration, too. All the time there is lively interaction between the various levels.

Knowledge of research methods and the whole aspect of methodology does not mean that the teacher would act like an educational researcher in his/her classroom. His/Her inquiring attitude, however, prevents the intervention of outside authorities from confusing his/her teaching with topical novelties or with unprofessional viewpoints. Raising the teacher's thinking as high as possible towards the second thinking level relieves him/her of thinking about authoritative boundaries and strengthens his/her autonomy in the teaching profession.

5. The dynamic nature of the model

In building this model of pedagogical thinking my intention has been to make it as dynamic and flexible as possible. It means that the model must be as general as possible, too. It also means that the model is not content specific but it can be used in any context with any content by applying some basic questions:

1. Why or what is the value basis of the specified theme selected to be examined?
2. How and by which means we can get knowledge of this theme selected to be examined and how we can have confidence in that knowledge?

The application of this model to every kind of problem specified is possible through content specific application of these two basic questions. The dynamic nature comes into play as we notice that the structure of the analysis often seems to remain the same but the dynamics bring with it the particular features of the problem. In this way pedagogical thinking may be as content specific, as situation specific, or as specific as a whole as needed according to the selection of the theme in question.

The first question focuses on the purposes stated in the curriculum and the intentions that teachers bring with themselves to the instructional process. My point is that intentionality is not enough if it is understood without content that is specific in the instructional process. That is why it is necessary to combine these two elements, and to delineate the meaning by calling it purposiveness. Noel (1993) discusses the problem of intentionality and reviews its use in the research on teaching, mainly in such projects as the process-product tradition of research, the cognitive processing program of research, and the reflective teaching program of research. Noel claims that the conception of intentionality remains a too passive aspect of thinking. In the model of pedagogical thinking the content of purposiveness is taken from the curriculum, and that is why pedagogical thinking is supposed to be active with a content that is continually changing as the instructional process is going on.

The interplay between purposiveness and empirical evidence emphasises the dynamic nature of the model. Decision-making is taking place all the time on different thinking levels according to the teacher's readiness to think over his/her problems coming up during the instructional process.

6. Some ideas about testing the model

The model of pedagogical thinking is so general that it requires a certain viewpoint every time it is used. The main purpose behind the model is to find out how teachers move in their thinking from the descriptive to the normative. This general problem can be approached in a number of ways. Our angle of approach to this question is to look at the advice that student teacher's get and

that supervisors give during the teaching practicum. The arguments behind the advice are particularly important because they show, we hope, what can be understood as descriptive and as normative in pedagogical thinking. There has been more and more interest in the process of student teaching, and also some interest in the way supervisors guide their students during this process, *die Rezeptologie* (e.g., Meyer 1980, 27-55) or give advice in general (e.g., Taylor & Dunn 1993). We try to go beyond these recipes and advice. In principle it is not necessary to stay in the supervising process, the empirical starting point could be the instructional process and the pedagogical process wherever it is taking place.

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Didactics
From Art to Science

Tomas Kroksmark

During the 1980s an interest in teaching-scientific research was reborn in Sweden represented by the term didactics. This new interest in didactics has a long initial histoty. For instance Urban Dahllöf's research from the 1960s was within a didactic definition. During the 1980s, however, through the Swedish university reform in 1977 and the proposals for the new Swedish teacher education (grundskollärarutbildningen)[1], didactics also became a question of the scientific basis of teaching methodology[2] within teacher education. Accordingly, didactics came to occupy a position in which its disciplinary domicile began to end up outside of pedagogy. This is especially applicable when the didactic research includes problem areas dealing with the foundation of teacher competence. It applies to both the subject and the general competence foundation, partly that within professional teacher education, partly that professional competence developed by teachers in weekday practice, but even the relation between these. This part of didactic research has also unified international research aims under the heading teacher professionalism. It had the reservation, however, that it mostly dealt with a didactic sense of professionality (i.d., teachers' didactics).

In this article, I bring up the question of the relations between teaching methodology and didactics and between didactics and pedagogy. By following methodology in its changes from being an *art* to becoming a *science* to once more become an art which again becomes a science, I search for an explanation to the dynamic position which didactics has right now.

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1 This new teacher education started in the fall of 1988.

2 The term "methodology" is here defined as both the art and the science of teaching based on tried experience and scientific knowledge.

My purpose is to try to outline the interrelationship between methodology, didactics and pedagogy.

Didactics - a part of pedagogy

Didactics is traditionally a part of pedagogy.[3] The latter is usually divided into two main areas; one deals with upbringing and the other with teaching. This very division of pedagogy attracts the question of whether there in practice can be found any upbringing without teaching and vice versa; that is if we can imagine a teaching without upbringing. No matter how we act towards such a problem, it is both possible and necessary in a theoretical division of a scientific area to make terminological and conceptual distinctions even if they are not obvious in everyday life.

The specific part of scientific pedagogy which deals with teaching is called didactics. In older times, e.g., in Comenius (1592-1670), didactics was delimited in a simple definition. In *Didactica Magna (The Great Didactics)* 1657, Comenius confirms, »Didactics means the art of teaching«. Comenius refers here to the methodical aspect of teaching which deals with the transfer of knowledge and experiences in a concrete classroom situation. Methodology is given two separate definitions. The first one assumes certain universal or general foundations signifying that the teaching methodology has to subordinate itself to a legal foundation, e.g., in nature or in the individual. One example of such subordination is that nature moves from the simple to the complex; accordingly, all teaching ought to move from the simple and concrete to the more complex and abstract. Comenius' second general didactic foundation is the experience, meaning that the learner's experience has to be the foundation of content oriented choices in everyday teaching.[4]

He adds a content related dimension to what we call general didactics and to what is predicted since the relation between methodology and content is criticized. Teaching is nothing in itself, and is in Comenius works always connected with content. The connection between the content and the methodology of teaching can be made in at least two different

3 It is also possible to regard didactics as a sub discipline of pedagogy. Such a definition does not exist in Sweden but is not unusual in, e.g., Germany, cp. Röhrs 1969.
4 See *Orbis sensualium pictus*.

ways. On one hand, the methodology can be of superior significance as in, e.g., Maria Montessori or Cèlestin Freinet. On the other hand, *the content of teaching* can be guiding and determining in the methodology of teaching as in, e.g., Comenius.

From methodology to pedagogy

Comenius' didactics concerns primarily concrete teaching methodology. He talks about *the art* of teaching, indicating to us that he refers to something concrete and practical. This definition of didactics survived right up to the turn of the 18:th century.

At this time, teachers around Europe had started to be interested in the theoretical aspects of concrete teaching methodology, the first European professorship in pedagogy was instituted in 1779 in the German town Halle,[5] and already around 1700 something was established which could be compared to a teacher education. The latter assumed a more definite shape in 1735 when the first real European teacher education was founded in Kloster Berge outside Magdeburg. Despite organized teacher education, the demand was that the teachers should have a representative at the university. This also happened as mentioned above and, hence, pedagogy teachers were secured a scientific and theoretical establishment of concrete methodology.

Eventually, the continental development of the art of teaching against the science of teaching or pedagogy also reached Sweden. Even here, the teachers inquired about the theoretical foundations of teaching. Compiled in a simple calendar, the Swedish effort to achieve a chair at a university appears at follows:

1784	Daniel Boëthius lectures in pedagogy at Uppsala University.
1802	Teachers are offered the possibility of being examined in pedagogy and didactics at Lund University.

5 Its first holder was Ernst Trapp (1745-1818). See Kansanen, P. (1990): Education as a Discipline in Finland. *Scandinavian Journal of Educational Research, Vol. 34, No. 4, 1990, p. 271-284.*

1803-04-14 The Justice of the Supreme Gustaf Halldin donates »65 barrels of corn as the annual salary for a teacher in the science of education and teaching at K. Mt's Academy in Uppsala». No such chair ever materialized however.

1803 Sweden's first senior lecturers in pedagogy teach at Uppsala University (Elias Christopher Grenander) and at Lund University (Anders Otto Lindfors). At this date, examinations in pedagogy and didactics are also available in Uppsala and Åbo.

1846 The teachers' first *Periodical for Teachers and Educators* is set up and its first issue published.

1876-03-23 Olof Eneroth donates his capital of 52.000 Swedish crowns to the institution of a professorship in pedagogy at Stockholm University.[6] The deed of gift was handed over to Stockholm University in 1882.

1894 Among teachers, a renewed interest in defending a doctor's thesis within a didactic definition arose. First in line was C. O. Dufvenberg who presented his dissertation *The native language as central teaching subject* in Uppsala on March 28.

1905 Fridtjuv Berg and Emil Hammarlund propose a motion to the riksdag about the institution of a professorship in pedagogy at Uppsala University. The motion was voted down.

1907 Berg and Hammarlund propose a second time. This time the chamber reaches the decision to institute a professorship in pedagogy at Uppsala University.

6 The so called "Enerothic" professorship was instituted in Stockholm in 1934 and David Katz was installed as its first holder in 1937.

1908	The professorship is instituted. The professor in theoretical philosophy in Uppsala, Karl Reinhold Geijer, substitutes as professor in pedagogy until January 1.
1909	The senior lecturer at Uppsala University, Bertil Hammar, takes over the temporary post lasting until August 12.
1910	Hammar enters his duties as Sweden's first professor in pedagogy. He was officially installed October 8.[7]

210 years passed from the time when the first professorship in pedagogy was instituted in Halle to its Swedish equivalence. In a Swedish perspective it took 126 years for methodology to gain scientific status. It was then called didactics and defined *within* a pedagogical definition.

From methodology to didactics

Didactics through Comenius aimed at reacting a methodical definition within pedagogy. During the 19th century, concurrent with the establishment of a scientific standard within pedagogy, didactics was primarily perceived as the science of teaching. Accordingly, we can distinguish two levels of knowledge within the area, namely a methodical-practical level referring to *the art of teaching*, i.d., knowledge *of* teaching, and a didactic-scientific level referring to *the science of teaching*, i.d., knowledge *about* teaching. Didactics, as the science of teaching, can in this way be considered as the scientific foundation of methodology.

When Bertil Hammar finally became the first professor of pedagogy, it was primarily due to the effect of the struggle and ambitions of secondary and elementary school teachers.[8] This group saw Hammer as their professor. The university academics was modestly interested, if not to say almost negative, towards the thought that the teacher profession could have a theoretical foundation. Actually, the aspiration towards a scientific

7 For further information, see Dahllöf 1984.
8 See Kroksmark 1991.

pedagogy with its own chair only found support among philosophers.[9] When Hammar began researching, he turned towards research on the teaching and learning praxis. When the the real teaching and learning world is made subject for scientific treatment, it is of interest to examine how this transition is expressed, i.d., what becomes the object of the research and how does its scientific method look.

Among other things, Hammar forwarded the idea that it is the didactic part of pedagogy which has to be systematized in scientific terms. He was then interested in teacher competence. Hammar states in a work from 1909, *Experimental and intuitive pedagogy*, that those who best know and understand the contents of teacher competence are the elementary school teachers themselves. The purpose of the research is to follow the practitioners and listen, study and describe how the competent as well as the less competent teachers work. Hammar's idea was that knowledge of teaching is found in the practice stage and that the purpose of research is to make this competence visible and thematic through descriptions in which the teachers can recognize themselves in their professional weekday. Hammar's view of didactics demonstrates a special view of science. It becomes a weekday-related science with close relations between theory and practice. His research-methodical aim is close to reality and qualitative. It tries to do justice to the weekday, i.d., the teachers' professional weekday, as fully as possible.

In a later work from 1919, *Natural ability and mission of life*, Hammar suggests that a teacher's most central competence lies in the aspect of mediation, i.d., in a developed methodical competence to teach others to learn. This requires, in his words, »the capability of totally imagining someone else's thoughts and feelings... what the pupils could perceive and be interested in».

The interesting thing about Hammar's pedagogy is that it is precisely realistic and related to the weekday. When science collects data from the teaching weekday and makes theory out of practice, the credibility of science is tested in that instance when the theory must be *restored* to practice. If the practitioners then recognize themselves in the scientific descriptions of the professional weekday, we can talk about the science of

9 Primarily Karl Reinhold Geijer but also Hans Larsson.

practice. If the theory is not recognized, a credibility gab arises between the researchers and the practitioners. Hammar touched upon these thoughts and tried accordingly to keep the distance between practice and theory as small as possible; something that may seem surprising in the light of later pedagogy in Sweden.

From didactics to methodology

During the period between the wars, Swedish pedagogical research was oriented towards psychology, especially towards differential psychology. Attached to this was a totally new research methodology using mostly natural scientific methods and statistics. Psychology and natural scientific methods dominated pedagogy from the 1920s up to the end of the 1960s.[10] In this way, scientific pedagogy was established as principally psychology, i.d., as something other than didactics. Psychological pedagogy did not have didactics as a central point of reference, and, therefore, didactics was not considered an interesting area of research. The relation quickly led to didactics relapsing into methodology, i.d., something dealing with concrete, handed over teaching skillfulness and without scientific anchorage. Methodology became a subject in teacher education without scientific requirements.

The effect of the development of pedagogy during the mentioned time period was that the knowledge produced by research only in exceptional cases dealt with the teaching weekday. Gradually, the above mentioned credibility gab between practitioner and science appeared. This manifested itself in teachers not inquiring about scientific knowledge from pedagogy and in scientific pedagogy looking upon the teacher profession as something incompatible with scientific knowledge. The teacher profession was regarded as a profession without claim on or possibility of theoretical consideration. The effect of this relation was that didactics was lost as a part of scientific pedagogy. Didactics became methodology, and, correspondingly, it lost all theoretical and scientific claims.

Pedagogical research around teaching defines those problem areas having close relation to practice. When pedagogy becomes psychology, the

10 During the 1940s, when pedagogy was divided into two chairs (one in pedagogy and one in psychology), every Swedish professor in pedagogy chose to become professor in psychology.

teaching-methodical research problems tend to fall outside the center of research. This displacement of focus within pedagogy is interesting, since during 50 years the dominating problems were different from those presented by the teachers during the 19th century debate about teaching on scientific foundation. The fact that didactics has received little scope in pedagogical research during a long period of time, unlike in other Scandinavian countries, may also explain why no scientific knowledge has been added to teaching methodology in teachers' practice nor to the subject of methodology within teacher education.

This relation has resulted in a vacuum within pedagogy. This could be described in the following terms: although pedagogical research has not to any great extent shown an interest in didactics, this does not mean that the demands for didactic knowledge on teachers in the teacher education have ceased. When the need for a certain knowledge is greater than the supply of the same, we may assume that the development of knowledge does not occur in a scientific way. In the case of teachers, so-called practical knowledge developed through tried professional experience has become dominant. This knowledge is often unexpressed and not made thematic. This implies it is silent in character since it is neither systematized nor described; it is rarely transferred between professional generations but becomes private property.

It is reasonable to assume that this is exactly what happened to didactics in Sweden. During several decades, it has relapsed into being only methodology since it gradually lost its scientific sense. This relation has been obvious in teacher education in which the methodology teacher has been the only category of educators whose sole qualifications consisted of tried teaching experience. Up to now, no scientific schooling has been required in this category of educators.

Didactics within pedagogy has not sustained a scientific foundation of methodology and has through its unscientific anchorage been understood as personally carried knowledge and skill, concrete and practical in its constitution. If this presumption is correct, it ought to explain the turbulence which appeared around didactics when it was reintroduced as the scientific foundation of methodology during 1983-84.[11]

11 In 1983, Marton published a report discussing the scientific foundation of the teacher education. In this he introduced the word didactics in the meaning the science about

Back from methodology to didactics

The discussion which arose around didactics after 1984 touches upon some remarkable features. It partly deals with the question of what is meant by didactics implicating that pedagogy was unfamiliar with didactics; that didactics had partly fallen outside of pedagogical limits and required now suddenly a definition. Several interested partners were attracted into this vacuum, which was established within pedagogy during the time when didactics fell outside scientific pedagogy. Even subjects and disciplines which traditionally fall outside pedagogy can be noticed. These are, first of all, the subject-theoretic areas dealt with in teacher education and the so-called general methodology.[12] Accordingly, new combinations of subjects in which didactics played different roles came about.

Subject didactics (ämnesdidaktik) was one of these. This combination was able to build a bridge between disciplines and subject methodology (ämnesmetodik) resulting in the establishment of a subject-centered didactic possibility. On the whole, this was a subject-oriented establishment though, since the scientific tradition existed within the discipline and not within the pedagogical vacuum formed by didactics. The situation quickly created a conflict of interests within teacher education in which the question of the scientific status of components was carried to an extreme. The situation was the same for general methodology.[13]

The general methodists within teacher education, whose knowledge was anchored and developed in the practice of teaching, also received a road to scientific foundation in what was called general didactics. Most so-called general methodists were swept up by the parallel growing wave of knowledge in the debate about school and teacher education in the 1980s. They were later scrubbed under the subject-didactic specializations in

teaching: Marton, F. (1983): From education-methodical to subject-didactic research. *Arbetsrapport nr 100, Lärarutbildningen vid Linköpings universitet.* In 1984, Ference Marton, Ingemar Nilsson and Stig Nilsson arranged a UHÄ-symposium in Marstrand. Representatives from every university in Sweden participated. It was partly through Marton's article and the symposium in Marstrand that the word didactics was revived within Swedish pedagogy.

12 The term refers to the methodology of the old elementary and secondary school stages.
13 In Sweden teaching in teaching methodology are devided into two different areas: Subject matter methodology (form 7-9) and general metodology (preschool- to form 9), earlier called stage metodology.

teacher educations. In this way, the knowledge of the practical class teacher was watered down and the result was that didactics, on the whole, operated in connection with different subject predecessors. This situation was in no way remarkable since the general methodists already - for lack of a theoretical foundation for their own practical knowledge - to a great extent had leaned against one or more school subjects, e.g., Swedish methodology for elementary school, mathematics methodology for secondary school, etc. Earlier the difference between, e.g., Swedish methodology for elementary school and subject methodology in Swedish for high school was mostly methodical, but in this new combination it becomes primarily content related.

When didactics - as the science about teaching - was presented as the scientific foundation of methodology in teacher education, most Swedish teacher educators chose to introduce the methodologies for grades 1 - 6 in the same definition as subject didactics, i.d., the methodologies for grades 7 - 9. This created even here a conflict of interests resulting in that two methodical perspectives were put against one another. On one side was the so-called subject teacher perspective dating back to the old notation of secondary school tradition, and on the other the so-called class teacher perspective emanating out of the elementary school tradition. Expressed differently, it was a distinction in the professional focus of teacher competence. The first perspective is heavily oriented towards the subject and the discipline whereas the second perspective places the teaching methodologies as form and the subject as foundation.

Another alternative for the class teacher methodology was to try to develop its own scientific foundation for teaching. This alternative is then called general didactics intending to make practice as subject of its own sense of science. This implies the fundamental assumption that didactics may be given a general status, i.d., that methodology can be described and made thematic as methodical knowledge existing beyond the definitions of the subject. In this way, general didactics should develop scientific methodology in terms of a public and general teacher competence. Such train of thought implies that general didactics does not have to be oriented towards a subject definition nor towards a general or cross-scientific combinations, but rather that it explores teacher competence in a total perspective in which its content of knowledge supposably in itself

constitutes the professionalized clues to teacher education.[14] When general methodology becomes didactics in this sense and through general didactic terminology, it is more closely related to pedagogy than to a subject definition. In this way, general didactics appears as two in itself different alternatives. The first one directs the attention of teacher competence towards problems about *how we organize what we know so that we can teach it,* [15] i.d., towards a theory of curricula, translations of goals and processes and the process evaluation of knowledge and skills. The other possibility is oriented towards that part of teacher competence which comes into existence in the concrete classroom situation, i.d., that teacher competence is directed towards questions dealing with *understanding how we (teachers, students, teaching materials, etc.) are conscious of the world we are conscious of.* Both these areas occur in the totality defining teacher competence in a general didactic sense; they constitute two aspects of the same matter.

All in all, different groups of interests are now trying to fill the vacuum which Swedish pedagogy developed during some time with alternative pedagogical contents, or, as in the latter case, with more or less traditional pedagogical contents. The occurring surfaces of conflicts to a great extent supposed to depend on that the vacuum having no distinct identification. Consequently, didactics has been treated in several ways: as a subject possibility, as a methodical possibility and as a pedagogical possibility or impossibility. No thorough analysis is necessary to verify that the direction of methodical totalities, as the class teacher methodists earlier secured teacher education, now to a great extent is substituted by specially directed subject-didactic knowledge. Since didactics, at least temporarily, has lost its hold as general didactics within the limits of pedagogical research, teacher education is only exceptionally secured to general didactic research results.

Didactics is no longer an obvious and claimed part of pedagogical research. It establishes totally new domains. In 1987, Ulf P. Lundgren[16] commented on the actual situation as follows: »The concept of didactics has a central significance for pedagogy as science. In the tension which has arisen about the meaning of didactics, important research has come about...

14 Cp. Kroksmark 1990.
15 Cp. Lundgren 1981, p. 16, translated from Swedish.
16 Lundgren 1987.

But most of all, the discussions about what didactics is have implied that new groups of researchers and practitioners are approaching pedagogical research. A more broad based pedagogical research has been built. It is more tied than previously to teacher education and is based on teachers and teacher educators actively working with different research assignments».

The research which tends to be of a more fundamental significance for teacher education concerns, as far as can be judged, its most fundamental categories. This counts for the teacher profession as practical activity and science as theoretical activity within the same education. Both are essential in professional education; however, neither their foundations nor their mutual relationship has yet been investigated. This has created a problem area because the teacher education organization is not established on a scientific basis. When the teacher training college (seminarium) became a university education (1977), institutions had to be arranged after the new system. New boundaries were drawn between the different components of competence of the teacher training college often by predecessors of the university. Those are, in relation to the division of the teacher training college, to a great extent arbitrarily drawn. This relation appears now as a scientific problem within the education. Accordingly, research in the three above mentioned fundamental components of teacher education should hardly deprive itself of this relation as an aspect.

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Learning/Instruction Issues in Basic Skills

Nils Søvik

Introduction

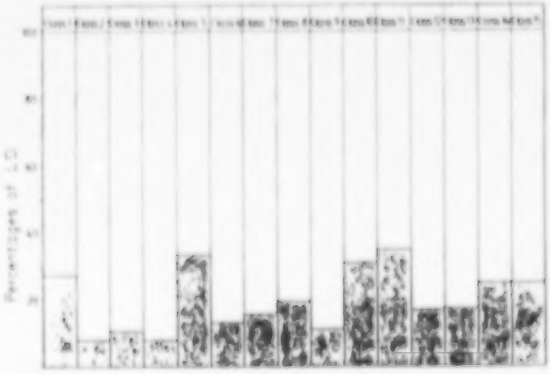
Aims of education are guidelines for administrators, teachers, and students as regards contents, means, and activities used at different levels of the school system. It is, of course, possible to design theoretically the contents and the teaching programs of an educational system without taking students and their characteristics into account. In planning the contents and means of such a system aims could, for example, be based on the ideas which former educational thinkers have developed and published. On the other hand, persons responsible for designing aims and curriculum of the educational system could emphasize a political view, such that their guidelines and programs for the schools would be derived from problems in society which they think are among the most urgent ones. Also, the leaders of the educational system might look to educational psychology and try to learn the needs and possibilities students have at different levels, and thus find answers to the problems raised in conjunction with aims of education.

Aims of education thus seem to be closely associated with people's values of life. Consequently, school politicians, educationalists, and other persons strongly involved in aims of education, often have difficulties in order to agree on which aims and means should be chosen for the education of people. However, when studying aims and programs for elementary schools in European countries historically, one can easily find that **knowledge and skills** have been among the dominating factors in the elementary school curriculum for the later 150 years (Harbo, 1989). At the elementary school level, the terms knowledge and skills usually have been defined as **basic skills**, i.e., arithmetic, reading, and writing. Because competence in basic skills is a prerequisite in knowledge acquisition of other school subjects, e.g. science, history, etc., it is important that the learning environment and the instruction of basic skills are adapted to students' needs and readiness.

There are several arguments for focusing our interest on learning/instruction of basic skills. Children who start to learn arithmetic, reading, and writing in first grade are divergent with respect to abilities and prerequisite knowledge and skills for the imposed learning program. Similarily, the teachers of basic skills also meet their students with different competences and personalities.

Although attempts often are made in organizing objectives, learning tasks, and instruction according to the principle of individualized instruction, research indicates that the frequencies of learning problems in basic skills during children's three first years of schooling are substantial (Gjessing, Nygaard & Solheim, 1988; Søvik, 1987). Figure 1 thus illustrates the rate of learning problems in reading, spelling, and writing among 331 third-graders in the city of Trondheim six years ago. The average percentage of learning difficulties in the study was 16.6. If data from research on the frequencies of learning problems in arithmetic among younger schoolchildren are taken into consideration, they correspond fairly well with the reported Trondheim-study concerning reading and writing (Ostad, 1977). In other words, the average frequency of learning problems in basic skills is rather high, and the graphic display in Figure 1 indicates a great variability of the frequency of learning difficulties in the 15 schoolclasses under study.

Figure 1. Comparisons of learning disabilities (LD) cases (percentage of LD in class) in 15 schoolclasses, 3. grade level. (5 borderline cases are included). LD-samle = 63. Total sample = 331.



In the current paper, I shall therefore concentrate on problems and tasks related to the curriculum and the teaching of basic skills. As the objectives,

the learning material, and the learning/intruction program of a school subject should be based on relevant research, it follows that the article pays attention to the competence of the teachers as they have the main responsibility for organizing, processing, and evaluating the learning/instruction program in arithmetic, reading, and writing.

Some common didactic highlights

Didactics of a particular school subject, or a group of closely related subjects, can not be separated from the general didactic school program. Thus, some pedagogical factors are operating commonly for all of the basic skills taught in schools.

In the Nordic countries, **the Standard Plan of Education** is considered as one of the central factors in education. Although the intentions and the contents of the Standard Plans of Education within a country can change considerably over a period of 20 to 30 years, some pedagogical variables always occur in such a plan. The Standard Plan of Education will present the general aims of the educational program, and also the objectives for a specific subject or a group of subjects. The aims and the objectives are the most decisive guidelines for selection of tasks, exercises, and materials which should be used by teachers and students in their daily work at school. The guidelines are usually viewed as external or internal criteria of how teachers should select and organize students' learning program, and further, advices may be given with regard to choice, structure, and use of learning materials; and how instruction, evaluation, etc. should be carried out in practice. Today, our Standard Plans of Education argue rather strongly for an emphasis on the students, perhaps more in relation to a group of students than to the individual student, regarding general selection, organization, and use of the educational program (Bjørndal & Lieberg, 1976).

Concerning basic skills it should also be noted that the intentions as well as the learning programs (tasks/exercises) have changed considerably in our Standard Plans of Education during the recent 30 years. Even though the formal aspects of arithmetic, reading, and writing are still emphasized, more attention is now being paid to comprehension compared to "techniques" and formal exercises as aspects of the learning program (Mønsterplan, 1987; Skola för bildning, 1992).

Besides the Standard Plan of Education **the students** are another important factor in schools. The problem of designing educational

environments in order to diversify the individual experiences of the learner has become increasingly intense since the beginning of the twentieth century (cf. Cronbach, 1967; Glaser, 1977). What compulsory education does is to assemble in one place almost the full range and diverse qualities of individuals, and this makes it necessary for educationalists to struggle with this diversity. It is well known that educationalists back in the 1930s through the 1960s, especially in the USA, emphasized standardized tests of ability and aptitude to make educational decisions at the elementary school levels (Glaser, 1977; Sandven, 1966). The essential decision process was based on an assessment of abilities that predicted, to some extent, whether students would profit from the relatively fixed curriculum provided. The general educational and social theory behind this selective system was that every individual should go as far in the progression from elementar school through secondary and higher education as his or her abilities for handling the given program would warrant. However, often a discrepancy can be observed between children's IQ and their academic performances which indicates that other variables may interact significantly with their learning of academic tasks (Søvik, Frostad and Lie, 1992).

It is well known among educationalists that students proceede with different rates of learning. Especially when instructional procedures are relatively fixed, altering the rate of instruction can be adaptive to the divergent needs and capacities of the learners. As the principle of individualized instruction of basic skills is considered as most important in education, one has to specify what is meant by students' readiness (capabilities of learning):

1. Developmental aspects of readiness in the areas of physical, intellectual, emotional, and social maturity.
2. Adequate prerequisites concerning knowledge, skills, and attitudes.
3. Conditions of learning based on student's view on knowledge, skills, and education according to his/her socio-economic background.
4. Student's social relations in the schoolclass (Gundem, 1988).

In addition to the four points outlined above, recent research in the studies of children's specific learning problems has indicated that their learning strategies, (across-domain strategies as well as task specific strategies), seem to be most significant in predicting individual success in

academic studies (Leino, A-L., Leino, J. and Lindstedt, J.P., 1989; Søvik, 1990; Vauras, 1991).

Bruner, Goodnov, and Austin (1956) were among the first researchers who dealt with the term learning strategy which they defined as ways of acting and thinking. Later, various definitions of the strategy concept have been presented mainly depending on the view the researcher will have for including or excluding the across-domain strategies in their studies. Personally, I agree with those who think that the general aspects of the strategy concept should be taken into account when studying students' learning strategies. Therefore, I consent to Alexander and Judy (1988) when they propose to define strategies as goal-directed procedures that are planfully evoked either prior to, during, or after the performance of the task. Strategies thus will aid in the regulation, execution, or evaluation of the learning task. When using this broad definition of the strategy concept certain personality traits seem to play a significant role as across-domain strategies. In a recent study we found that each of the personality characteristics: attention, reflection, accuracy, feedback, and persistence correlated more strongly with the quality of students' performances in basic skills then did their IQ-scores (Søvik et al., 1992).

The third main factor I would like to stress in describing general didactics for basic skills is **the teachers and their work**. It is, of course, the managers of the schools, and the teachers in particular, who are responsible for the interpretation and use of the Standard Plan of Education in view of the learning/instruction program going on in the schoolclasses. As the aims of education, the curriculum, and the instruction of basic skills have changed considerably over the later 30-50 years, the educational demands for a teacher have differed during the same period as well (Shulman, 1991; Strømnes, 1989). Let us then check some viewpoints predominating in theory and studies of teachers in the 1980s.

At the beginning of the 1980s, the new subject that occurred in international research on teachers was "Teachers' thinking". On this occasion, I can for space reasons merely mention some of the major aspects of the concept. "Teachers' thinking"-research has developed a theory for analysing and conceiving the thinking process of the teachers when they are working with a subject matter, and how the contents of it can be conveyed to students (cf. Buchmann, 1987; Shulman, 1986). Furthermore, the total base of knowledge/skills of the teacher will guide her work in planning and evaluating the learning activities of the students. According to Shulman, the teacher's

base of knowledge and skills will consist of various kinds of knowledge, and practical teaching is supposed to activate more or less "Teacher thinking". In other words, teachers' thinking starts with an anlysis of the tasks students are to do, such that the text or skill chosen for instruction should be understood. Then, the process continues with the transformation of the subject/skill passing through the following steps: 1. "preparation", which means interpretation and analysis of the theme to be taught, 2. "representation", i.e., transferring from subject to instruction the knowledge/skill by means of demonstrations, metaphors, etc., 3. "selection" of strategies and ideas for instruction that have been detected in text/task to be learnt by students, and 4. "adaption and tailoring" which stands for adjustment of text/task to the capabilities of the students. In his model Shulman further points at "instruction", "evaluation", and "reflection" as important steps in teachers' thinking.

Although the ideas in "Teacher thinking" research seem to be much stressed in recent teacher studies, one can hardly state that the "theory" represents many new paths in the theory and studies of teachers and their instruction. It is, of course, noteworthy that Shulman and his "school" emphasize the content knowledge (1. subject matter content knowledge, 2. pedagogical content knowledge, and 3. curricular knowledge), the general pedagogical knowledge, and the relationship between them (Shulman, 1986). Concerning basic skills this underlines an approved standard of knowledge and skill for teaching competence. Apart from these significant ideas with respect to teachers' thinking, the systems of phases in organizing and performing the teaching of basic skills presented in books of general didactics, seem to be as useful for practical teaching as the "steps" in Shulman's system (cf. Gundem, 1988; Rohwer, Rohwer, and B-Howe, 1980). Also, we should be aware of the general demand of adapted education, (Glaser, 1977; Mønsterplan, 1987), which, in principle, means that instruction should be individualized. In practice, such adapted instruction also incorporates requirements that teaching strategies should be matched with the strategies used by the learner.

Problems related to learning/instruction of mathematics

Earlier views of mathematics learning were a parallel of the general development in psychology and educational theory and practice. Whereas early research on learning was conducted much within a behaviouristic

framework, more recent work has been carried out within the cognitive psychology paradigm. Although this trend is obvious in the USA, a similar view can be observed from documentation of matemathics learning and instruction in the Nordic countries too. Relying on intuition and common sense more than scientific justification, mathematics teachers thus advocated, (and many still do), that students had to be active participants in the learning process, that learning had to be meaningful to the students, and that the teaching and the curriculum material should be organized accordingly. It followed that the teacher should help and guide students through the learning process, not merely tell them the answers. However, the majority of teachers often followed the textbook slavishly, and the skill aspect of mathematics was much emphasized as students were supposed to do lots of exercises of similar kind. By correcting and rewarding the "responses" of the students the mathematics teachers also found support for their learning/teaching program in general connectionistic psychology and education.

Already in the 1930s, some researchers challenged Thorndike,s approach of graded drill and practice examples (Brownell, 1935). Brownell stated that learning should be achieved through meaningful instruction with an emphasis on patterns and integrated sets of principles rather than through drill and practice. Brownell's model of learning, (Brownell & Hendrickson, 1950), proposed four kinds of learning: arbitrary associations, concepts, generalizations, and problem solving. The development of school mathematics continued in the USA during the next decades, and Brownell's conceptions of mathematics learning later received support from the two influencial educational psychologists, J. Bruner and R. Gagnè. Gradually, many educationalists accepted the hierarchical model of learning which lead to the socalled "spiral" curriculum model where material is viewed at each of the enactive, iconic, and symbolic levels. It was stated that the complexity of the concepts and skills being learnt affects the time required for transition between the various stages of development in mathematics knowledge and skill. A detailed description of the teaching strategies illustrating the application of Bruner's theory on concept learning has been given by Joyce and Weil (1986).

In Europe, and partly in the USA, the theories of the cognitive psychologists J. Piaget and L. Vygotsky have influenced the learning and instruction of school mathematics substantially since the 1960s. They both think that the development of children's intelligence and knowledge is based on human interactions with nature, people, and society. Children themselves

construct their knowledge from this interplay with the environment, and the construction also involves reflection on the knowledge. Today, most educationalists are familiar with Vygotsky's statements that the cognitive development of a child is much dependent on his/her management of the language, whereas Piaget did not emphasize language so strongly with regard to the development of intelligence. Piagetian work on student conceptions examined the development of student understanding of particular mathematical and scientific concepts over time. As Piaget assumed that knowledge is a process, not a state, he thought knowledge needs to be examined in relation to its developmental associations. Thus, Piaget emphasized concept development (Piaget, 1970). Contemporary research in mathematics learning places strong emphasis on students as active participants in the learning process, usually conveyed by this constructivistic view of Piaget and his coworkers (Leder & Gunstone, 1990). Even though the constructivist view of learning has been defended by a great many researchers, there are widely different meanings in much of the use of the term constructivist by mathematics education researchers.

The final theory dealt with in relation to mathematics learning here, the information processing theory, has added further knowledge to children's learning and development in mathematics. It has already been mentioned that a new paradigm began to affect the study of perception, thinking, problem-solving, memory, and learning at the end of the 1950s. The information-processing psychologists became more interested in the mental phenomena that intervened stimulus and response. According to Simon (1979), the information-processing approach showed up between ideas from symbolic logic and cybernetics, on the one hand, and from Wurzburg and Gestalt psychology, on the other. In the information-processing theory, it is assumed that knowledge resides in symbolic structures in the head, and that mental processes consist in using, editing, and creating those symbolic structures (Ohlsson, 1988; Simon, 1979). It is also stated that the mental processes are constrained by characteristics of human memory which the cognitive psychologists will distinguish at three kinds of registers: a sensory buffer, a long-term memory, and a working memory. It is theorized that information flows among the three kinds of memory registers. Furthermore, the socalled schemata, i.e., clusters of knowledge that describe the typical properties of the concept or the situation the information-processing models present, play an important role. A memory schema is then used to explain many aspects of the knowledge organization and recall of it.

Although the general principles of the information-processing theory now seem to play a leading role in cognitive psychology and education, some critics take the meaning that the theory has neglected the affective issues in the application of it to mathematics learning (McLeod, 1990). Similarily, Fishbein (1990) has contended that at every level of mathematic reasoning the intuition aspect must be considered.

Cognitive scientists have stated that their work provides appropriate, new tools for improving mathematics instruction as their research documents that learning and understanding are more complex phenomena than they appear to be, and have been taken to be for purposes of instruction. The more we understand about the nature of understanding, Schoenfeld has declared (1987), the better prepared we are to teach for it. R. Putnam and his collaborators also underline understanding as the most important aim for future learning and instruction in mathematics, saying that "Mathematics educators and researchers argue that current mathematics instruction in elementary and secondary schools focuses too much on efficient computation and not enough on mathematical understanding, problem solving, and reasoning" (Putnam, Lampert, and Peterson, 1990, p. 57). The general critique of contemporary learning and teaching of school mathematics finds support in several empirical studies. In a Scandinavian study by Eriksson & Neuman (1981), for instance, it was confirmed that 1) some 85 % of elementary school students were not able to transfer their knowledge/skill in mathematics to new relevant problems, and 2) some 15 % of students had no further development in math. concepts and skills after third grade.

Recent theories and research concerning children's learning of mathematics are thus based on cognitive psychology mainly, and they seem to have influenced the aimes, and partly the curriculum of school mathematics. However, the new views and knowledge of children's learning of mathematics do not seem to have affected modern instruction of school mathematics much (cf. Confrey, 1990; Greeno, 1987; Neuman, 1989). In fact, relatively few studies have been carried out in order to test the reviewed cognitive theories of children's mathematics learning, and even fewer have been done for systematic examination of curricula and instruction designed in accordance with the various theories in question. Nussbaum & Novick (1982) organized an instructional strategy for eliciting student conceptions that they hope will lead to cognitive restructuring. They concluded their research by stating that a teacher should 1) create a situation that require students to invoke their conceptual framework, 2) ask them to describe their framework verbally and

pictorally, 3) assist them in stating their ideas clearly, 4) have students debate the pro and cons, and 5) support the most highly generalizable solution.

Mathematics educators have criticized the socalled process-product researchers, who dominated general research on teaching and teacher education in the 1970s, and partly in the 1980s (Brophy & Good, 1986; Gage, 1978), for their failure to consider what mathematics is worth knowing and for their ready acceptance of achievement tests as the primary measure of instructional effectiveness (Romberg & Carpenter, 1986). These spokesmen for a greater emphasis on understanding in teaching and learning of mathematics will argue that standardized achievement tests represent a limited view of what mathematics is worth knowing (cf. Putnam et al , 1990). What becomes important from this new perspective is not how much knowledge a person has, but how that knowledge is organized and how accessible it is in various situations. As mentioned earlier, some researchers in the area of teaching, e.g., Shulman, have responded to the criticisms of process-product research by building new research programs to study teaching, but for the most part, they maintained their commitment to studying existing classroom practice, as they think there are considerable improvements which can be made within the pervasive frameworks of teaching in existing practice (cf. Leinhardt, 1988). Carpenter, Fennema, and Peterson (1987) with their Cognitively Guided Instruction (CGI) have tried to assist first-grade teachers change their underlying views of learning in light of cognitive research on individual children's solving of addition and subtraction word problems. Their instructional recommendations are based on two assumptions: 1) that instruction should develop understanding by stressing relationships between skills and problem solving, and 2) that instruction should build on students' existing knowledge. In another attempt to change teachers' views and practice in order to reflect a new perspective on learning Cobb, Yackel, and Wood (1988) have worked with second grade teachers to alter their teaching to be consistent with a constructivist view of learning.

It should be noted that in the reported attempts made by researchers and practitioners in the USA, (and also in many European studies), teachers have been urged to incorporate broad instructional principles that intend to make instruction appropriate for each student by basing instructional decisions on frequent assessment of the student's learning strategies. As an adapted education in mathematics requires information on the individual readiness of the student for learning and understanding the subject, knowledge of his/her learning strategies is most important. Fortunately, a great many studies of

students' learning strategies in mathematics have been conducted simultaneously as the more general research in school mathematics reported above. The body of research in the strategy field documents the strategies students use to memorize, conceptualize, and solve problems under various conditions, even though we still know relatively little about the process through which students come to use one strategy rather than another (Siegler, 1991).

In terms of arithmetic results from many studies have indicated that the arsenal of relevant strategies is increasing from grade 1 and upwards, and children of a certain age often use a wide variety of strategies. Furthermore, recent studies show that their strategy choices often are dependent on use of backup strategies. These are strategies other than retrieval that can be used to solve problems which potentially also can be solved by retrieval. In other words, counting from one or from the larger addend are backup strategies for simple addition. Many studies have indicated that within each domain, children most often use backup strategies on the most difficult problems (Siegler, 1986, 1987). Moreover, children usually seem to choose adaptively among alternative approaches when working with problems in arithmetic (Ostad, 1977; Søvik et al., 1992). On developing a curriculum and designing mathematics teaching the practitioners should become familiar with the across-domain as well as the task specific strategies of their students and try to adapt the educational program in mathematics accordingly.

Cardinal problems and characteristics of reading and writing

Communication through language occurs by means of listening, talking, reading, and writing. Whereas listening and reading are receptive processes, talking and writing are productive functions. Reading and writing are skills which children develop through schooling, but all of the four activities intend to convey meanings between individuals.

Prior to the 1970s, research on beginning reading and writing focused almost entirely on first-grade instruction. Most young children were not thought able to read and write, or understand what the two functions would mean, until they were taught in first grade. Later, research has also concentrated on precursors of literacy and influences of the home on later reading and writing. This is mainly due to new and broader definitions of the two skills and results from longitudinal studies of what children know. Research has indicated that preschool children make recognizable story

reading attempts before they can read lists of words (Sulzby, 1985), and their scribbles and invented spellings of words anticipate conventional writing (Temple, Nathan, and Burris, 1982). In an outline on this preschool research related to children's learning and instruction of reading and writing, Mason & Allen (1986) have reviewed studies indicating the impact of social and linguistic contexts for literacy acquisition, e.g., communication patterns and practices, parent-child interactions, and parent-child literacy activities which are considered as critical supports for the acquisition of reading and writing concepts. They also point at the oral and written distiction explaining that literacy is not a simple extension of oral language as written language contains concepts that are new and often difficult to learn. In other words, emergent literacy represents a somewhat new perspective on the studies of learning/teaching of reading and writing with implications for practice in the classrooms.

Reading and writing development are individual processes which reflect the evolving skills of the individual language learner, but instruction is a social process, rooted in the interaction between teacher and student. Through the intersection of development and instruction, the learner can use language to understand world and act to it. Although reading and writing are functionally different activities, they are also deeply related, and therefore efforts have been made to develop a common theory of teaching and learning of the two skills (Langer & Applebee, 1986). Before dealing with the learning/instruction problems associated with reading and writing per se, it can therefore be useful to become acquainted with the main lines of their common theory of instruction.

This theory also has been much affected by the work of Vygotsky and Bruner. As mentioned earlier in connection with mathematics learning, Vygotsky focuses on language as a social and communicative activity. He means that higher level skills are the result of the child's learning of functional relationships, i.e., in becoming a literate, children learn the structures and processes in socially meaningful literacy activities. Thus, processes which are initially mediated socially become resources available to the language learner, and the interactive events are therefore the base of learning to read and write (Vygotsky, 1962).

Bruner and his coworkers also take the adult/child relationship into account for language learning (Wood, Bruner and Ross, 1976). Bruner considers language as the basis for concept formation, which is a tool for cognitive growth. Writing then becomes most important as an effective skill

essential to thinking, and schooling as promoting the development of reasoning abilities through training in the mastery of written language. Both Bruner and Vygotsky thus view language learning as growing out of a communicative relationship where the adult helps the child to understand and complete new tasks.

Langer and Applebee (1986) in their general approach to the study of reading and writing seem to find great support in the ideas of language learning by Bruner and Vygotsky. They argue that the reviewed theories and studies of early language learning are inasmuch studies of instruction. The role of the adult in these interaction studies is that of a teacher or tutor, and the role of the child is that of a student. Langer and Applebee think the patterns of these interactions resemble those of classroom instruction, even though they also differ in many ways. Concerning studies of the impact of the learning/instruction program with relevance to reading and writing in classroom practice, I shall return to them.

When reading is analysed and studied as a specific skill, independent of writing, it should be noticed that researchers distinguish between the two behavioural forms: oral and silent reading. However, the two main characteristics (subskills) of reading - **coding** and **comprehension** - are supposed to operate both in oral and silent reading activities (Høyen & Lundberg, 1992). Concerning the subskill coding research has made it clear that the reader can use two major strategies, an orthographic and/or a phonologic strategy. Whereas the orthographic strategy is considered as a direct strategy, i.e., the reader will move directly from the visually form of representation of the word to its meaning and pronounciation, the phonological strategy is usually defined as an indirect strategy. In addition, semantic, syntactic, and pragmatic clues will affect the performance of the reader. Space limitations prevent me from giving a further description of how the different aspects of the coding process are developed through schooling and exercises.

Coding is a subskill needed for the "technical" aspect of fluent reading, and consequently, also for understanding the meaning of the reading task (text). However, in order to fully comprehend the contents of the reading-text additional factors are involved. In fact, reading comprehension is a complex process where cognitive as well as linguistic variables will operate. In the sophisticated process of comprehension the reader will develop his/her internal text (representation) of the real text. Although the (external) reading text is the same, the individual readers of a text will have somewhat different

conceptions and experiences of it.

According to Austad (1991), there are at least three main factors operating in the process called reading comprehension; namely, the reader, the text, and the context. Furthermore, it should be noted that many scientists seem to share the cognitive view on reading which means that comprehension is much based on knowledge learnt and stored in the reader's memory, and ready for retrieval when needed. In other words, the cognitively oriented reading-researchers theorize that reading (as well as writing and arithmetic) can be based on a theory of schemata (Anderson & Pearson, 1984). A schema is then defined as an abstract and generalized memory system which is available to the reader in order to recognize and understand the text s/he is reading (Portier, 1992).

During later years, linguistic researchers also have taken interest in children's reading performances, the analyses of the reading text in particular. It is not only the separate words in the text they think will influence children's reading comprehension, but the structure of the text, i.e., the coherence of the words within a sentence, and the coherence between the various sentences, is supposed to play an important role for comprehension. Reading researchers and educationalists are now paying much attention to the ways a reader is guiding and/or controlling her/his reading activities, as research has shown that such metacognitive behaviour will affect the reader's reading performance and understanding of the reading task as well (Brown, 1980; Høien & Lundberg, 1992).

Theories, research, and practical experience in the classrooms are, of course, the best point of departure for designing reading instruction. In Nordic, elementary schools, the learning/instruction program of reading have been concentrated on students in grades 1 through 3 mainly. In other words, training in reading has focused on teaching and exercises in coding much more than on reading comprehension (Austad, 1991). It has already been stated that children must learn to manage the fundamental aspects of the coding process before they can concentrate on reading comprehension, even though the two aspects of reading should be learnt simultaneously to some extent. However, future teaching of reading certainly has to give more space and training for reading comprehension in our schools, especially from grade 3 and upwards.

As children are most dependent on instruction for their learning and progress in reading skill, even at higher levels of the elementary school, the reading teachers' competence is dependent on knowledge of recent reading

research. In her practical work at schools, such knowledge should be used for organizing curriculum, learning materials, instruction, and exercises. In order to follow Mason & Au's four aspects of an interactive theory on the reading process (1986), both teachers and students should know that: 1) searching for meaning is a goal in reading education, 2) reading is a process of construction, i.e., the reader uses the new words and sentences in the text and integrates them into meaningful units, 3) reading should exploit various prerequisites (for better comprehension), and 4) reading should be a strategic/adapted process, i.e., the reader should adjust his/her reading in accordance with the purpose of the reading task in question.

When dealing with the term writing one should learn to distinguish between the two meanings of writing concept: the manual writing, often called handwriting, and writing as a means of communication where the product of the person's writing is a result of his/her ideas or message s/he wants to convey to others. Ordinarily, communication of one's thoughts to other people graphically has been done through the manual skill/handwriting. Whereas most of the written compositions of students in elementary schools and high schools are still conducted through handwriting, the microcomputers now seem to take over more and more the technical aspect of the writing process. For space limitations, however, I shall here refrain from describing the psychological, physiological, and educational aspects of handwriting, even though later studies of the standards of the performances of children's handwriting indicate that instruction and training in handwriting as a skill at school often are neglected (Mæland & Karlsdottir, 1991).

In grades 1 through 3, the learning/instruction of reading and writing usually is closely interwoven, and training in one of the activities is supposed to affect the other in a positive way. As to instruction and practice in writing, copying text from the reading book and/or writing down personal ideas or experiences are principles which are often followed. During the recent decade, however, a change in aims and methods of the learning/instruction of writing gradually has taken place (Mønsterplanen, 1987; Strømquist, 1988). The paradigm shift which has occurred, from viewing writing as an unanalyzed holistic process, to the widespread recognition that writing is a complex skill, should be noted. The new paradigm is emphasizing the writing process more than the writing product. At the beginning of the 1980s, a great many research projects therefore were performed, mainly in the USA, to explore the writing processes of children and adults (Cochran-Smith, 1991). However, the majority of this process-oriented research has been concerned

with cognitive aspects of writing, rather than with the study of instruction, i.e., the way in which those processes can be taught and learned.

Writing is a complex activity because the construction of a coherent text requires continual access to different types of knowledge. The written product, however, does not necessarily reflect all of the knowledge accessed and used during composition. Although all writers experience some difficulty during writing, especially when they are formulating new ideas, children are thought to have more problems with the writing process than adults. Younger children can not coordinate different kinds of knowledge easily, and they spend more time on each segment of the text than the "experts".

During the recent decade, different problems associated with children's writing process have been studied. Bereiter and Scardamalia (1981), for example, have developed the notion of procedural facilitation, an approach in which adults guide students learning to write and think. They believe younger and older students are constructing different problem representations, with younger children perceiving more complex problems in simpler ways. Procedural facilitation should then be used to reduce the executive demands of a task in ways that assist students to use the knowledge they already have, but in such a writing instruction program the adult (instructor) does not enter into the task as an overt collaborator.

Hayes and Flower (1980) have used a different model to describe the subprocesses specific to writing. They assume that the writer's store of knowledge and interpretation of task demands guide and control three major subprocesses in writing: planning, translating, and reviewing. Planning activities consist of setting specific goals for the writing process, generating information, and organizing it. Before text production begins, some sort of translation process must occur. The act of translation involves an attempt to match linguistic knowledge to the knowledge-based schema that results from the planning procedure. The third process, reviewing, consists of reading, editing, and revising the written text.

Despite related criticism of the new movement called process-oriented writing (cf. Cochran-Smith, 1991), some Scandinavian educationalists have accepted the ideas and procedures of this kind of writing instruction for application in our schools (Dysthe, 1988; Hoel, 1990; Strømquist, 1988). It is reasonable to think that more research should be done to clarify whether this new pedagogy of learning/instructing children to write will be more efficient on their text production than the more conventional writing instruction programs.

Concluding remarks

The survey of learning/instruction problems in basic skills indicated changes in educationally related aims and methods which have taken place during the later decades, especially since 1980. Among the numerous factors causing such changes the influence of cognitive theories and research on learning/instruction in arithmetic, reading, and writing should be emphasized. There are reasons to argue that the information process theory has played a significant role for the new view of children's basic skill learning. In consequence, more meaningful tasks are now required in the learning/instruction programs for children in elementary schools, even though this educational practice is not supposed to be realized at the expence of the formal aspects of learning/instruction of arithmetic, reading, and writing.

When stressing the aims and methods of more meaningful learning in modern schools it follows that the student should be active in the learning/training situation. Furthermore, knowledge about the learning and performance strategies of the individual child will be most important in an educational design for organizing individualised instruction in the basic skills. Today, researchers as well as educationalists are paying attention to the learning strategies of children working with problems in arithmetic, reading, and writing. This kind of research should go on as the interaction theory, (mainly concentrated on the interactions between student and teacher), learns about the effects and importance of matching instruction and learning variables in the classroom. Hence, the new aims and methods for the learning/instruction program of basic skills put demands on future teachers with regard to high competence both in the target subjects and the educational knowledge and skill.

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